Ravi Maths Tuition

Probability

10th Standard

Maths

Multiple Choice Question 95 x 1 = 95

1) Which of the following cannot be the probability of an event?

(a) $\frac{2}{3}$ (b) -1.5 (c) 15% (d) 0.7

2) The probability of a leap year selected at random contain 53 Sunday is

(a) 53/ 366 (b) 1/7 (c) 2/7 (d) 53/365

3) A bag contains 3 red and 2 blue marbles. A marble is drawn at random. The probability of drawing a black ball is :

(a) 3/5 (b) 2/5 (c) 0/5 (d) 1/5

4) The probability that it will rain tomorrow is 0.85. What is the probability that it will not rain tomorrow

(a) 0.25 (b) 0.145 (c) 3/20 (d) none of these

5) What is the probability that a number selected from the numbers (1, 2, 3,.....,15) is a multiple of 4?

(a) 1/5 (b) 4/5 (c) 2/15 (d) 1/3

6) The probability that a prime number selected at random from the numbers (1,2,3, ...35) is

(a) 12/35 (b) 11/35 (c) 13/35 (d) none of these

7) The sum of the probability of an event and non event is :

(a) 2 (b) 1 (c) 0 (d) none of these

8) The following probabilities are given; choose the correct answer for that which is not possible.

(a) 0.15 (b) 2/7 (c) 7/5 (d) none of these

9) If three coins are tossed simultaneously, than the probability of getting at least two heads, is

(a) 1/4 (b) 3/8 (c) 1/2 (d) 1/8

10) 15 defective pens are accidentally mixed with 135 good ones. It is not possible to just look at a pen and tell whether it is defective or not. One pen is taken out at random from this lot. The probability that the pen taken out is good will be

(a) 9/10 (b) 11/12 (c) 6/15 (d) 1/10

11) All the three face cards of spade are removed from a well shuffled pack of 52 cards & card is drawn from the remaining pack. Find the probability of getting a black face card.

(a) 3/49 (b) 12/50 (c) 7/49 (d) 9/50

12) A bag has 9 red, 7 green and 4 blue balls. A student randomly selects a ball from the bag. The probability of not getting a blue ball is

(a) 9/20 (b) 1/5 (c) 7/20 (d) 4/5

13) A bag contains cards which are numbered from 2 to 90. A card is drawn at random from the bag. The probability that it bears a two digit number is:

(a) 88/92 (b) 81/89 (c) 88/90 (d) 89/90

14) A fair die is cast in the game of 'Ludo'. The probability of getting a score greater than 6 is

(a) zero (b) 2/3 (c) 1/6 (d) 1

15) A bag contains 3 white and 5 red balls. If a ball is drawn at random, the probability that the drawn ball is red is

(a) 3/8 (b) 3/15 (c) 5/8 (d) 5/15

16) In a throw of a die, the probability of getting a prime number is

(a) 6 (b) 1/2 (c) 3/2 (d) 3/4

17) A card is drawn at random from a pack of 52 playing cards. The probability of getting a face card is

(a) 3/13 (b) 5/13 (c) 1/4 (d) 4/13

18) A number is chosen at random from the numbers -3, -2, -1, 0, 1, 2, 3. The probability that $|X| < 2$ is

(a) 3/7 (b) 1/7 (c) 2/7 (d) 5/7

19) The probability of getting a number less than 5 in a single throw of dice is

(a) 5/6 (b) 2/3 (c) 1/2 (d) 1/3

20) From a well-shuffled pack of 52 cards, a card is drawn at random. The probability that it is a face card is:

(a) 4/13 (b) 2/13 (c) 1/13 (d) 3/13

21) The probability that a leap year has 53 Sundays is

(a) 3/7 (b) 2/7 (c) 1/7 (d) 4/7

22) A bag contains 3 white and 5 red balls. If a ball is drawn at random, the probability that the drawn ball is red is

(a) 3/15 (b) 5/15 (c) 5/8 (d) 3/8

23) Harry tosses two coins simultaneously. The probability of getting at least one head is

(a) 3/4 (b) 1/3 (c) 2/3 (d) 1/2

24) Two coins are tossed together. The probability of getting head on both the coins is

(a) 3/4 (b) 1/2 (c) 0 (d) 1/4

25) Two dice are thrown simultaneously. Probability of getting a prime number on both the dice is:

(a) 1/4 (b) 2/9 (c) 5/18 (d) 1/2

26) A die is thrown once. Find the probability of getting a number that is either composite or prime

(a) 6/6 (b) 5/6 (c) 3/6 (d) 4/6

27) Three face cards of spade are removed from a well shuffled pack of 52 cards and a card is drawn from the remaining pack. The probability of getting a black face card is

(a) 12/50 (b) 9/50 (c) 3/49 (d) 7/49

28) A card is drawn from a well-shuffled deck of 52 playing cards. The probability that the card will not be an ace card is

(a) 12/13 (b) 1/13 (c) 3/4 (d) 1/4

29) What is the probability of getting a king when a card is drawn from a well shuffled deck of 52 playing cards?

(a) 1/26 (b) 4/13 (c) 1/13 (d) 1/52

30) What is the probability of a sure event?

(a) 1 (b) Between 0 and 1 (c) 0 (d) greater than 1

31) If a die is thrown once, the probability of getting a prime number is

(a) 1/3 (b) 1/4 (c) 1/2 (d) 1/5

32) If the probability of winning a game is 0.995, then the probability of losing is

(a) 0.005 (b) 0 (c) 0.05 (d) 1

33) Suppose you drop a dice in a rectangular region with sides 6 m and 4 m. A circle of diameter 1 m is drawn inside it. What is the probability that it will land inside the circle?

(a) $\pi/24$ (b) $\pi/96$ (c) $\pi/6$ (d) $\pi/48$

34) The probability that a consonant is selected from the English alphabet is

(a) 21/26 (b) 5/26 (c) 1/26 (d) 1/2

35) If a digit is chosen at random from the digits 1, 2, 3, 4, 5, 6, 7, 8, 9 then the probability that it is odd is

(a) 1/9 (b) 2/3 (c) 4/9 (d) 5/9

36) If the probability of winning a game is 0.3, the probability of losing it is

(a) 1.3 (b) 0.1 (c) 1 (d) 0.7

37) Cards each marked with one of the numbers 4, 5, 6 ...20 are placed in a box and mixed thoroughly. One card is drawn at random from the box. The probability of getting an even prime number is

(a) 1 (b) Zero (c) 2 (d) 4

38) There are six girls and four boys in a class. If one candidate is to be selected to take part in a competition, then which of the following is the probability of selecting a girl candidate?

(a) 7/10 (b) 3/5 (c) 2/5 (d) 1/10

39) An urn contains lottery tickets numbered from 1 to 100. If a ticket is selected at random, then the probability that it is a perfect square is

(a) 0.01 (b) 0.08 (c) 0.09 (d) 0.1

40) One card is drawn from a deck of 52 cards. The probability of drawing a black card is

(a) 1/4 (b) 1/2 (c) 1/52 (d) 1/3

41) If the probability of an occurrence of an event A is denoted by P(A), then the range of P(A) is

(a) 0 (b) $0 \leq P(A) < 1$ (c) 1 (d) $0 \leq P(A) \leq 1$

42) Three unbiased coins are simultaneously tossed. The probability of getting at the most 2 heads is

(a) 7/8 (b) 3/8 (c) 3/7 (d) 1/4

43) Two dice are thrown together. The probability of getting the same number on both dice is:

(a) 1/3 (b) 1/2 (c) 1/6 (d) 1/12

44) The probability that a non-leap year selected at random will have 53 Mondays is

(a) 52/365 (b) 1/7 (c) 7/52 (d) 45/52

45) The probability of happening of an event is P. The maximum and minimum values of p are

(a) max(p) = 4, min(p) = 1 (b) max (p) = 3, min (p) = 2 (c) max (p) = 1, min (p) = 0

(d) max (p) = 2, min (p) = 3

46) In a lottery, there are 5 prizes and 20 blanks. The probability of getting a prize is

(a) 1/5 (b) 1/2 (c) 1/4 (d) 1/3

47) If an unbiased coin is tossed then the event of getting a 'head' or 'tail' is called

(a) certain event (b) complementary event (c) elementary event (d) impossible event

48) What are the total outcomes when we throw three coins?

(a) 4 (b) 5 (c) 8 (d) 7

49) An unbiased die is thrown. Which of the following is false

(a) P(odd number) =1/2 (b) P(even number) =1/2 (c) P(square number)=1/3 (d) None of these

50) Which of the following cannot be the probability of an event?

(a) 0 (b) 1 (c) 3/2 (d) 2/3

51) Probability of an event E + Probability of the event 'not E'

(a) 0 (b) 1 (c) Insufficient data (d) None of these

52) A number is selected at random from the numbers 1 to 30. The probability that it is a prime number is

(a) 11/30 (b) 1/6 (c) 2/3 (d) 1/3

53) Two unbiased coins are tossed simultaneously then the probability of getting no head is $\frac{A}{B}$, then $(A + B)^2$ is B equal to

(a) 1 (b) 4 (c) 5 (d) 25

54) A letter is chosen at random from the letters of the word 'ASSASSINATION', then the probability that the letter chosen is a vowel is in the form of $\frac{6}{2x+1}$,then x is equal to

(a) 5 (b) 6 (c) 7 (d) 8

55) If a number x is chosen at random from the numbers - 2, - 1. 0, 1. 2. Then, the probability that $x^2 < 2$ is

(a) $\frac{2}{5}$ (b) $\frac{4}{5}$ (c) $\frac{1}{5}$ (d) $\frac{3}{5}$

56) Tickets numbered from 1 to 20 are mixed up together and then a ticket is drawn at random, then the probability that the ticket has a number which is a multiple of 3 or 7, is

(a) $\frac{2}{5}$ (b) $\frac{3}{5}$ (c) $\frac{4}{5}$ (d) $\frac{1}{5}$

57) Ramesh buys a fish from a shop for his aquarium. The shopkeeper takes out one fish at random a tank containing 5 male fish and 9 female fish. Then, the probability that the fish taken out is a male fish, is

(a) $\frac{5}{13}$ (b) $\frac{5}{14}$ (c) $\frac{6}{13}$ (d) $\frac{7}{13}$

58) A number x is selected from the numbers 1,2,3 and then a second number y is randomly selected from the numbers 1,4,9, then the probability that the product xy of the two numbers will be less than 9 is

(a) $\frac{3}{7}$ (b) $\frac{4}{9}$ (c) $\frac{5}{9}$ (d) $\frac{7}{9}$

59) A bag contains 3 red and 2 blue marbles. If a marble is drawn at random, then the probability of drawing a blue marble is

(a) $\frac{1}{5}$ (b) $\frac{2}{5}$ (c) $\frac{3}{5}$ (d) $\frac{4}{5}$

60) A bag contains 8 red balls and some blue balls. If the probability of drawing a blue ball is three times of a red ball, then the number of blue balls in the bag

(a) 12 (b) 18 (c) 24 (d) 36

61) There are 1000 sealed envelopes in a box, 10 of them contain a cash prize of Rs. 100 each, 100 of them contain a cash prize of Rs. 50 each and 200 of them contain a cash prize of Rs. 10 each and rest do not contain any cash prize. If they are well-shuffled and an envelope is picked up out, then the probability that is contains no cash prize is

(a) 0.65 (b) 0.69 (c) 0.54 (d) 0.57

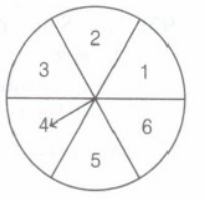
62) Two dice are thrown together. The probability that sum of the two numbers will be a multiple of 4, is

(a) $\frac{1}{2}$ (b) $\frac{1}{3}$ (c) $\frac{1}{8}$ (d) $\frac{1}{4}$

63) If odds in against of an event be 3:8, then the probability of occurrence of this event is

(a) $\frac{3}{8}$ (b) $\frac{5}{8}$ (c) $\frac{3}{11}$ (d) $\frac{8}{11}$

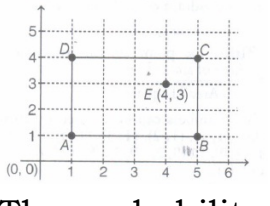
64) The given figure shows a disc on which a player spins an arrow twice.



The fraction $\frac{x}{y}$ is formed, where 'a' is y the number of sectors on which the arrow stops on the first spin and 'b' is the number of the sectors in which the arrow stops on the second spin. In each spin, each sector has equal chance of selection by the arrow, then the probability that the fraction $\frac{x}{y} \geq 1$.

(a) $\frac{7}{12}$ (b) $\frac{5}{12}$ (c) $\frac{11}{12}$ (d) $\frac{1}{2}$

65) A graph is shown below. The intersection points of two lines are said to be the integer points.



The probability of E with respect to the integer points in the rectangle ABCD is

(a) 0 (b) 1 (c) 1/9 (d) 1/20

66) Two dice are numbered 1,2,3,4,5,6 and I, 1,2,2,3,3 respectively. They are thrown and the sum of the numbers on them is noted. The probability of getting even sum is

(a) $\frac{1}{9}$ (b) $\frac{1}{18}$ (c) $\frac{1}{2}$ (d) $\frac{1}{4}$

67) At a fate, cards bearing numbers 1to 1000. One number on one card are put in a box. Each player selects one card at random and that card is not replaced. If the selected card has a perfect square number greater than 500, the player wins a prize.
The probability that the first player wins is

(a) 0.009 (b) 0.099 (c) 0.999 (d) 1

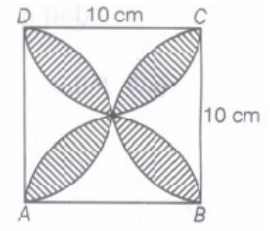
68) At a fate, cards bearing numbers 1to 1000. One number on one card are put in a box. Each player selects one card at random and that card is not replaced. If the selected card has a perfect square number greater than 500, the player wins a prize.
The probability that the second player wins a prize, if the first has already wins is

(a) $\frac{1}{999}$ (b) $\frac{2}{999}$ (c) $\frac{4}{999}$ (d) $\frac{8}{999}$

69) A box contains 54 marbles each of which is blue, green or white. The probability of selecting a blue marble at random from the box is 1/3 and the probability of selecting a green marble at random is 4/9. The number of white marbles in the box are

(a) 10 (b) 12 (c) 14 (d) 16

70) A helicopter was crashed somewhere in the region given below. The probability that the helicopter was crashed in the shaded region is



(a) 0.75 (b) 0.57 (c) 0.55 (d) 0.77

71) In a group of 3 people, the probability that atleast two will have the same birthday is (ignoring leap year)

(a) $\frac{364\times363}{365^2}$ (b) $\frac{364\times363\times362}{365^3}$ (c) $1-\frac{364\times363}{365^2}$ (d) $1-\frac{364\times363\times362}{365^3}$

72) Two number b and c are chosen at random with replacement from the numbers 1, 2,3,4,5. The probability that $x^2 + bx + c = 0$ has non real roots is

(a) $\frac{13}{25}$ (b) $\frac{12}{25}$ (c) $\frac{11}{25}$ (d) $\frac{9}{25}$

73) Two fair coins are tossed together. The probability of getting 2 heads is

(a) $\frac{1}{2}$ (b) $\frac{3}{4}$ (c) $\frac{1}{4}$ (d) $\frac{3}{8}$

74) A die is thrown once. The probability of getting a number less than 6 is

(a) 0 (b) $\frac{5}{6}$ (c) $\frac{1}{6}$ (d) 1

75) Two dice are thrown together. The probability that they show different numbers is

(a) 1/6 (b) 5/6 (c) 1/3 (d) 2/3

76) The probability of guessing the correct answer to a certain test question is $\frac{x}{6}$. If the probability of not guessing the correct answer to this question is $\frac{2}{3}$, then the value of x is

(a) 2 (b) 3 (c) 4 (d) 6

77) If a digit is chosen at random from the digits 1, 2, 3, 4, 5, 6, 7, 8, 9, then the probability that this digit is an odd prime number is

(a) $\frac{1}{3}$ (b) $\frac{2}{3}$ (c) $\frac{4}{9}$ (d) $\frac{5}{9}$

78) Two coins are tossed simultaneously. The probability of getting at most one tail is

(a) $\frac{1}{2}$ (b) $\frac{1}{4}$ (c) $\frac{3}{4}$ (d) 1

79) A bag contains 3 red balls, 5 white balls and 7 black balls. The probability that a ball drawn from the bag at random will be neither red nor black is

(a) $\frac{1}{3}$ (b) $\frac{1}{5}$ (c) $\frac{7}{15}$ (d) $\frac{8}{15}$

80) The probability of getting a bad egg in a lot of 400 eggs is 0.045. The number of good eggs in the lot is

(a) 18 (b) 180 (c) 382 (d) 220

81) Let k be the probability that a player wins a medium prize in his first attempt. If a player wins a small and a large prize in his first two attempts, then the probability that he wins a medium prize in his third attempt is

(a) equal to k (b) less than k (c) more than k

(d) cannot be determined using the given information

82) Which of the following cannot be the probability of an event?

(a) 0.01 (b) 3% (c) $\frac{16}{17}$ (d) $\frac{17}{16}$

83) Which of the following numbers cannot be the probability of happening of an event?

(a) 0 (b) $\frac{7}{0.01}$ (c) 0.07 (d) $\frac{0.07}{3}$

84) If P(E) = 0.65, ,then the value of P (not E) is

(a) 1.65 (b) 0.25 (c) 0.65 (d) 0.35

85) For an event E, P(E)+ P($\bar{E}$) = x, then the value of x^3-3, is

(a) -2 (b) 2 (c) 1 (d) -1

86) Two coins are tossed together. The probability of getting atleast one tail is

(a) $\frac{1}{4}$ (b) $\frac{1}{2}$ (c) $\frac{3}{4}$ (d) 1

87) When a dice is thrown once, the probability of getting an even number less than 4 is

(a) $\frac{1}{4}$ (b) 0 (c) $\frac{1}{2}$ (d) $\frac{1}{6}$

88) A dice is rolled twice. The probability that 5 will not come up either time is

(a) $\frac{11}{36}$ (b) $\frac{1}{3}$ (c) $\frac{13}{36}$ (d) $\frac{25}{36}$

89) One card is drawn at random from a well-shuffled deck of 52 playing cards. The probability that it is a red king is

(a) $\frac{1}{52}$ (b) $\frac{1}{26}$ (c) $\frac{2}{26}$ (d) $\frac{2}{13}$

90) 2 cards of heart and 4 cards of spade are missing from a pack of 52 cards. What is the probability of getting a black card from the remaining pack?

(a) $\frac{22}{52}$ (b) $\frac{22}{46}$ (c) $\frac{24}{52}$ (d) $\frac{24}{46}$

91) One card is drawn at random from a well-shuffled deck of 52 playing cards. What is the probability of getting a black king?

(a) $\frac{1}{26}$ (b) $\frac{1}{13}$ (c) $\frac{1}{52}$ (d) $\frac{1}{2}$

92) One card is drawn at random from a well-shuffled pack of 52 playing cards. The probability that the drawn card is a queen, is

(a) $\frac{4}{13}$ (b) $\frac{1}{13}$ (c) $\frac{2}{13}$ (d) $\frac{1}{26}$

93) A box contains cards numbered 6 to 50. A card is drawn at random from the box. The probability that the drawn card has a number which is a perfect square like 4, 9... is

(a) $\frac{1}{45}$ (b) $\frac{2}{15}$ (c) $\frac{4}{45}$ (d) $\frac{1}{9}$

94) A box contains 90 discs, numbered from 1 to 90. If one disc is drawn at random from the box, the probability that it bears a prime number less than 23 is

(a) $\frac{7}{90}$ (b) $\frac{1}{9}$ (c) $\frac{4}{45}$ (d) $\frac{9}{89}$

95) There is a green square board of side 2a unit circumscribing a red circle. Jayadev is asked to keep a dot on the above said board. Find the probability that he keeps the dot on the green region.

(a) $\frac{\pi}{4}$ (b) $\frac{4-\pi}{4}$ (c) $\frac{\pi-4}{4}$ (d) $\frac{4}{\pi}$

Fill up / 1 Marks 21 x 1 = 21

96) Probability of an event E + Probability of the event 'not E' = ----------

97) The probability of an event that cannot happen is _____ Such an event is called_____

98) The probability of an event that is certain to happen is _____Such an event is called_____

99) The sum of the probabilities of all the elementary events of an experiment is _____

100) The probability of an event is greater than or equal to _____ and less than or equal to_____

101) Sum of the probabilities of each outcome in an experiment is.....

102) A pair of fair dice is thrown and one die shows a 4.The probability that the other die shows 5 is.....

103) Probability of getting 6 with single die is.....

104) Probability of getting a prime number in single throw of a die is.....

105) The probability of winning a game is $\frac{2}{5}$ .The probability of lossing it is.....

106) Probability of an event E+Probability of the event 'not E' = ...

107) The probability of an event that is certain to happen is ..... Such an event is called .....

108) The probability of an event is greater than or equal to..... and less than or equal to.....

109) The probability of drawing '2 of spades' from 52 well shuffled card is.....

110) In the word 'ASSASSINATION' the probability of getting a vowel is.....

111) An event having only one outcome of the experiment is called an _____

112) _____queens and _____are called face cards.

113) A given number of events are said to be _____, if none of them is expected to occur in preference to the others.

114) The probability of a sure event (or certain event) is_____

115) When two dice are thrown simultaneously, the total number of possible outcomes are _____.

116) For any event E, E and E are called _____ events.

True or False 21 x 1 = 21

117) For any event E, P(E)+P($\bar{E}$)

(a) True (b) False

118) Ace, King,Queen and Jack are called face cards.

(a) True (b) False

119) Set of all possible outcomes of the experiment is called the sample space.

(a) False (b) True

120) In a lottery, there are 10 prizes and 45 blanks, then probability of getting a prize is $\frac{2}{11}$.

(a) False (b) True

121) Probability of an event cannot be negative.

(a) False (b) True

122) The probability of an event may be greater than 1.

(a) True (b) False

123) P(E)+P($\bar{E}$)=1.

(a) False (b) True

124) -1.2 can be probability of an event.

(a) True (b) False

125) Queen, King and Jack are face cards.

(a) False (b) True

126) Probability of an event always lies between 0 and 1 both exclusive.

(a) True (b) False

127) Probability of an event lies between zero and one.

(a) True (b) False

128) The probability expressed as percentage of a particular occurrence can never be less than zero

(a) False (b) True

129) The sum of probabilities of all the outcomes of an experiment is greater than one.

(a) True (b) False

130) For an event E, $P(\bar{E}) = 1 - P(E)$.

(a) True (b) False

131) If a Random experiment is performed, then each of its outcome is known as favourable event.

(a) True (b) False

132) If E be an event associated with a random experiment, then P(E) > 1

(a) True (b) False

133) The probability of an event His a number P(E) such that $0 \leq P(E) \leq 1$.

(a) True (b) False

134) Two coins are tossed simultaneously, the probability of getting at least one tail is $\frac{1}{2}$

(a) True (b) False

135) A deck of playing cards consists of 52 cards out of which 26 are black cards and other 26 are red cards.

(a) True (b) False

136) Total number of face card in a pack of playing cards is 13.

(a) True (b) False

137) One card is drawn at random from a well-shuffled deck of 52 cards, the probability of a red card is $\frac{1}{2}$

(a) True (b) False

Match the following 14 x 1 = 14

138) In a class of 15 students, 8 are boys and rest are girls.The probability that a student selected will be girl is	(1) 0
139) A die is thrown once.The probability of getting a number greater than four is	(2) $\frac{3}{8}$
140) Two coins are tossed simultaneously.	(3) $\frac{7}{15}$
141) Three coins are tossed simultaneously, the probability of getting two Heads is	(4) 0.65
142) If P(E)=0.7, then the probability of 'not E' is	(5) $\frac{1}{3}$
143) Probability of an event cannot be	(6) 0 and 1
144) If P(A)=0.35, then the probability of "not A"	(7) $\frac{1}{26}$
145) Chance of throwing 6 with single die is	(8) $\frac{1}{2}$
146) A die is rolled once.The probability of getting even number is	(9) $\frac{1}{4}$
147) The probability of an event (other than sure and impossible event)lies between	(10) 0.77
148) The probability that it will rain today is 0.23, Then, the probability that it will not rain today is	(11) $\frac{1}{6}$
149) One card is drawn from a well-shuffled deck of 52 cards, the probability of getting a king of black suit is	(12) negative
150) A bag contains 7 black and 5 blue balls. A ball is drawn from the bag at random. The probability that the ball drawn is red, is	(13) $\frac{5}{6}$
151) A die is thrown once. The probability of getting a number other than 1 is	(14) $\frac{3}{10}$

Assertion and reason 5 x 1 = 5

152) **Assertion**: In a lottery, there are 5 prizes and 20 blanks, the probability of not getting a prize 4 is $\frac{4}{5}$

Reason: A die is tossed once, then the probability of getting a number less than 5 is $\frac{2}{3}$

Codes

(a) If both Assertion and Reason are correct and Reason is the correct explanation of Assertion.

(b) If both Assertion and Reason are correct, but Reason is not the correct explanation of Assertion.

(c) If Assertion is correct but Reason is incorrect.

(d) If Assertion is incorrect but Reason is correct.

153) **Assertion:** The probability of selecting a number from the numbers 1 to 20 is $\frac{1}{20}$.

Reason: For any event E, if P(E) = 1, then E is called an impossible event.

Codes

(a) Both Assertion and Reason are correct and Reason is the correct explanation of Assertion.

(b) Both Assertion and Reason are correct but Reason is not the correct explanation of Assertion.

(c) Assertion is correct but Reason is incorrect.

(d) Assertion is incorrect but Reason is correct.

154) **Assertion:** A number x is chosen at random from the numbers -3,-2,-1. 0, 1.2, 3, then the probability that Ixl < 2 is $\frac{4}{7}$

Reason: The probability that a number selected from the numbers 1, 2, 3, 20 is a multiple of 3 is $\frac{3}{10}$.

Codes

(a) If both Assertion and Reason are correct and Reason is the correct explanation of Assertion.

(b) If both Assertion and Reason are correct, but Reason is not the correct explanation of Assertion.

(c) If Assertion is correct but Reason is incorrect.

(d) If Assertion is incorrect but Reason is correct.

155) **Assertion (A)** In a cricket match, a batsman hits a boundary 9 times out of 45 balls he plays. The probability that in a given ball, he does not hit the boundary is $\frac{4}{5}$.

Reason (R) P(E) + P(not E) = 1

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A).

(b) Both Assertion (A) and Reason (R) are true but Reason (R) is not correct explanation ot the Assertion (A).

(c) Assertion (A) is true but Reason (R) is false.

(d) Assertion (A) is false but Reason (R) is true.

156) **Assertion** When two coins are tossed together, the probability of getting no tail is $\frac{1}{4}$.

Reason The probability P(E) of an event Esatisfies $0 \leq P(E) \leq 1$.

(a) Both Assertion and Reason are correct and Reason is the correct explanation of Assertion.

(b) Both Assertion and Reason are correct but Reason is not the correct explanation of Assertion.

(c) Assertion is correct but Reason is incorrect.

(d) Assertion is incorrect but Reason is correct.

2 Marks 344 x 2 = 688

157) Which of the following experiments have equally likely outcomes? Explain

(i) A driver attempts to start a car. The car starts or does not start.

(ii) A player attempts to shoot a basketball. She/he shoots or misses the shot.

(iii) A trial is made to answer a true-false question. The answer is right or wrong.

(iv) A baby is born. It is a boy or a girl.

158) Why is tossing a coin considered to be a fair way of deciding which team should get the ball at the beginning of a football game?

159) If P(E) = 0.05, what is the probability of 'not E'?

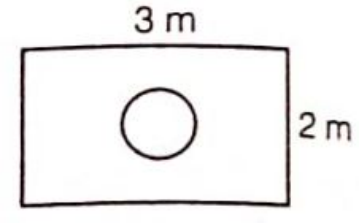
160) A bag contains lemon flavoured candies only. Malini takes out one candy without looking into the bag. What is the probability that she takes out

(i) an orange flavoured candy?

(ii) a lemon flavoured candy?

161) It is given that in a group of 3 students, the probability of 2 students not having the same birthday is 0.992. What is the probability that the 2 students have the same birthday?

162) Suppose you drop a die at random on the rectangular region shown in Figure. What is the probability that it will land inside the circle of diameter 1m?



163) Two players, Sangeeta and Reshma, play a tennis match. It is known that the probability of Sangeeta winning the match is 0.62. What is the probability of Reshma winning the match?ncer

164) A child has a die whose six faces show the letters as given below:

A	B	C	D	E	A

The die is thrown once. What is the probability of getting (i) A? (ii) D?

165) From a well-shuffled pack of cards, a card is drawn at random. Find the probability of getting a black queen.

166) A bag contains 4 red and 6 black balls. A ball is taken out of the bag at random. Find the probability of getting a black ball.

167) A die is thrown once. Find the probability of getting a number less than 3.

168) Cards bearing numbers 3 to 20 are placed in a bag and mixed thoroughly. A card is taken out from the bag at random. What is the probability that the number on the card taken out is an even number?

169) Two coins are tossed simultaneously. Find the probability of getting exactly one head.

170) An unbiased die is thrown, what is the probability of getting an even number.

171) If the probability of winning a game is 0.3, what is the probability of losing it?

172) The probability that it will rain tomorrow is 0.85. What is the probability that it will not rain tomorrow?

173) Cards marked with numbers 5 to 50, are placed in a box and mixed thoroughly. A card is drawn from the box at random. Find the probability that the number on the taken is
(i) a prime number less than 10.
(ii) a number which is a perfect square.

174) A pair of dice is thrown once. Find the probability of getting the same number on each dice.

175) A bag contains 5 red, 4 blue and 3 green balls. A ball is taken out of the bag at random. Find the probability that the selected ball is (i) of red colour (ii) not of green colour.

176) A card is drawn at random from a well-shuffled deck of playing cards. Find the probability of drawing a
(i) face card (ii) card which is neither a king nor a red card.

177) 15 cards, numbered 1, 2, 3, ..., 15 are put in a box and mixed thoroughly. A card is drawn at random from the box. Find the probability that the card drawn bears
(i) an even number
ii) a number divisible by 2 or 3.

178) A card is drawn at random from a pack of 52 playing cards. Find the probability that the card drawn is neither an ace nor a king.

179) Find the probability of getting 53 Fridays in a leap year.

180) Write the name of the experiment whose outcomes has to be among the set of events that are completely known but whose exact outcome is unknown.

181) A fair dice is rolled. What is the probability of getting number x such that $1 \leq x \leq 6$.

182) For an event A, find P(A) + P(not A).

183) A man is known to speak truth 5 out of 7 times. He throws a die and a number other than six comes up. Find the probability that he reports it is a six.

184) A man is know to speak truth 5 out of 6 times. He draws a face card from a pack of 52 playing cards. Find the probability that he reports it is a face card.

185) The probability of getting a bad egg in a lot of 800 eggs is 0.125. Find the number of bad eggs in the lot.

186) The probability of getting a bad pen in a lot of 400 pens is 0.25. Find the number of good pen in the lot.

187) Archana calculates that probability of her winning the first prize in a lottrey is 0.04. If 12000 tickets are sold, how many tickets has the bought?

188) A card is drawn at random from a well shuffled pack of 52 playing cards. Find the probability of getting a red face card.

189) A die is thrown once. What is the probability of getting a number greater than 4?

190) One card is drawn from a pack of 52 cards, each of the 52 cards being equally likely to be drawn. Find the probability that the card drawn is an ace.

191) A bag contains 3 red balls, 5 black balls and 4 white balls. A ball is drawn at random from the bag. What is the probability that the ball is white?

192) A letter is chosen at random from the letters of the word 'ASSASSINATION' Find the probability that the letter chosen is a vowel?

193) One card is drawn from a well-shuffled deck of 52 cards. Find the probability of getting the jack of hearts.

194) Fill in the Blanks:
(i) Probability of a sure event is ------
(ii) Probability of an impossible event is --------
(iii) The probability of an event (other than sure impossible event) lies between -----
(iv) A die is rolled once. The probability of getting a prime number is -------

195) A letter of English alphabet is chosen at random. Determine the probability that the letter is a Consonant.

196) A game of chance consists of spinning an arrow which comes to rest pointing at one of the numbers 1, 2, 3, 4, 5, 6, 7, 8 and these are equally likely outcomes. Find the probability that the arrow will point at any factor of 8.

197) The king, queen and jack of diamonds are removed from a pack of 52 cards and then the pack is well-shuffled. A card is drawn from the remaining cards. Find the probability of getting a card of (i) diamonds, (ii) a jack

198) A ticket is drawn at random from a bag containing tickets numbered from 1 to 40. Find the probability that the selected ticket has a number,
(i) which is a multiple of 7
(ii) which is a multiple of 5.

199) Three cards of spades are lost from a pack of 52 playing cards. The remaining cards were well shuffled and then a card was drawn at random from them. Find the probability that the drawn cards is of black colour.

200) Two different dice are tossed together. Find the probability
(i) that the number on each dice is even
(ii) that the sum of numbers appearing on two dice is 5.

201) Find the probability that a leap year should have exactly 52 tuesday.

202) A card is drawn at random from a well-shuffled deck of playing cards. Find the probability that the card drawn is (i) a card of spade or an ace (ii) a red king (iii) neither a king nor a queen (iv) either a king or queen

203) Cards marked with numbers 3, 4, 5, ..., 50 are placed in a box and mixed thoroughly. One card is drawn at random from the box. Find the probability that number on the drawn card is
(i) divisible by 7
(ii) a number which is a perfect square.

204) All the three face cards of spades are removed from a well-shuffled pack of 52 cards. A card is then drawn at random from the remaining pack. Find the probability of getting
(i) a black face card,
(ii) a queen,
(iii) a black card

205) The king, queen and jack of clubs are removed from a deck of 52 playing cards and the remaining cards are shuffled. A card is drawn from the remaining cards. Find the probability of getting a card of
(i) heart
(ii) queen
(iii) clubs

206) Cards bearing numbers 1, 3, 5, ...,35 are kept in a bag. A card is drawn at random from the bag. Find the probability of getting a card bearing (a) a prime number less than 15. (b) a number divisible by 3 and 5.

207) Two dice are rolled once. Find the probability of getting such numbers on the dice, whose product is 12.

208) All kings, queens and aces are removed from a pack of 52 cards. The remaining cards are well shuffled and then a card is drawn from it. Find the probability that the drawn card is (i) a black face card (ii) a red card

209) A bag contains 5 red balls, 8 white balls, 4 green balls and 7 black balls. If one ball is drawn at random, find the probability that it is (i) black (ii) red (iii) not green.

210) A bag contains 12 balls out of which x are white.
(i) If one ball is drawn at random, what is the probability that it will be a white ball?
(ii) If 6 more white balls are put in the bag, the probability of drawing a white ball will be double than that in (i). Find x.

211) The probability of selecting a red ball at random from a jar that contains only red, blue and orange balls is $\frac{1}{4}$. The probability of selecting a blue ball at random from the same jar is $\frac{1}{3}$. If the jar contains 10 orange balls, find the total number of balls in the jar.

212) A bag contains 18 balls out of which x balls are red
(i) If one ball is drawn at random from the bag, what is the probability that it is red ball?
(ii) If 2 more red balls are put in the bag, the probability of drawing a red ball will be 9/8 times the probability of drawing a red ball coming in part (i). Find the value of x

213) A bag contains 24 balls out of which x are white. If one ball is drawn at random the probability of drawing a white ball is y. 12 more white balls are added to the bag. Now if a ball is drawn from the bag, the probability of drawing the white ball is $\frac{5}{3}y$. Find the value of x.

214) At a fete, cards bearing numbers 1 to 1000, one number on one card, are put in a box. Each player select one card at random and that card is not replaced. If the selected card has a perfect square greater than 500, the player wins a prize. What is the probability that
(i) the first player wins a prize?
(ii) the second player wins a prize, if the first has won?

215) Red queens and black jacks are removed from a pack of 52 playing cards. A card is drawn at random from the remaining cards, after reshuffling them. Find the probability that the drawn card is
(i) a king
(ii) of red colour
(iii) a face card
(iv) a queen

216) A card is drawn at random from a well-shuffled deck of playing cards. Find the probability that the card drawn is
(i) a card of spade or an ace
(ii) a black king
(iii) neither a jack nor a king
(iv) either a king or a queen

217) A box contains cards bearing numbers from 6 to 70. If one card is drawn at random from the box, find the probability that it bears
(i) a one digit number
(ii) a number divisible by 5
(iii) an odd number less than 30.
(iv) a composite number between 50 and 70.

218) One card is drawn from a pack of 52 cards, each of the 52 cards being equally likely to be drawn. Find the probability that the card is red and a king.

219) A bag contains 3 red and 2 blue marbles is drawn at random. What is the probability of drawing a blue marble?

220) A card is drawn at random from a well-shuffled deck of 52 cards. Find the probability of getting a club.

221) Out of 400 bulbs in a box, 15 bulbs are defective. One bulb is taken out at random from the box. Find the probability that the drawn bulb is not defective.

222) From a well-shuffled pack of 52 cards one card is drawn at random. Find the probability that it is a King or a Queen.

223) 20 tickets, on which numbers 1 to 20 are written, are mixed thoroughly and then a ticket is drawn at random out of them. Find the probability that the number on the drawn ticket is a multiple of 3 or 7.

224) A card is drawn at random form a well-shuffled pack of 52 playing cards. Find the probability of getting neither a red card nor a queen.

225) A coin is tossed two times. Find the probability of getting at least one head.

226) A card is drawn at random from a well-shuffled pack of 52 cards. Find the probability of getting
(i) a red king
(ii) a queen or a jack.

227) A card is drawn from a well-shuffled deck of playing cards. Find the probability of drawing
(i) a face card
(ii) a red face card.

228) 1000 tickets of a lottery were sold and there are 5 prizes on these tickets. If John has purchased one lottery ticket, what is the probability of winning a prize?

229) There are 1000 sealed envelopes in a box, 10 of them contain a cash prize of Rs. 100 each, 100 of them contain a cash prize of Rs. 50 each and 200 of them contain a cash and an envelope is picked up out, what is the probability that it contains no cash prize?

230) A bag contains slips numbered from 1 to 100. If Fatima chooses a slip at random from the bag, it will either be an odd number or an even number. Since this situation has only two possible outcomes, so, the probability of each is $\frac{1}{2}$. Justify.

231) In a family having three children, there may bo no girl, two girls or three girls. So, the probability of each is $\frac{1}{4}$. Is this correct? Justify your answer.

232) Apoorv throws two dice once and computes the product of the numbers appearing on the dice. Peehu throws one die and squares the number that appears on it. Who has the better chance of getting the number 36? Why?

233) A student says that if you throw a die, it will show up 1 or not 1. Therefore, the probability of getting 1 and the probability of getting 'not 1' each is equal to $\frac{1}{2}$. Is this correct? Give reasons.

234) An unbiased die is thrown, what is the probability of getting a multiple of 3.

235) Two unbiased coins are tossed simultaneously. Find the probability of getting two heads.

236) A bag contains 5 black, 7 red and 3 white balls. A ball is drawn from the bag at random. Find the probability that ball drawn is red?

237) A die is thrown once. Find the probability of getting
(i) a prime number.
(ii) a number divisible by 2.

238) Two dice are thrown simultaneously.Find the probability that the sum of the two numbers appearing on the top is less than or equal to 10.

239) A bag contains cards which are numbered from 2 to 90. A card is drawn at random from the bag. Find the probability that it bears (a) a two digit number, (b) a number which is a perfect square.

240) Card marked with numbers 1, 3, 5, ..., 101 are placed in a bag and mixed thoroughly. A card is then drawn at random from the bag. Find the probability that the number on the drawn card is (i) less than 19. (ii) a prime number less than 20.

241) 17 cards numbered 1, 2, 3, ... , 16, 17 are put in a box and mixed thoroughly. One person draws a card from the box. Find the probability that the number on the card is: (i) odd (ii) a prime (iii) divisible by 3 (iv) divisible by 3 and 2 both.

242) Three coins are tossed. Find the probability of (i) getting exactly one head (ii) getting at least one head and one tail.

243) An urn contains 9 red, 7 white and 4 black balls. A ball is drawn at random. Find the probability that the ball drawn is (i) red (ii) white (iii) red or white (iv) white or black (v) not red.

244) In a class, there are 18 girls and 16 boys. The class teacher wants to choose one pupil for class monitor. What she does, she writes the name of each pupil on a card and puts them into a basket and mixes thoroughly. A child is asked to pickup a card from the basket. What is the probability that the name written on the card is (i) the name of the girl (ii) the name of a boy.

245) A box contains cards numbered 3, 5, 7, 9, ..., 35, 37. A card is drawn at random from the box. Find the probability that the number on the drawn card is a prime number.

246) Find the probability of getting a head in a throw of a coin.

247) If odds in favour of an event be 2 : 3, find the probability of non-occurence of this event.

248) A box has cards numbered 114 to 199. Cards are mixed thoroughly and a card is drawn from the bag at random. Find the probability that the number on the card, drawn from the box is (a) an odd number (b) a perfect square number

249) If odds against an event be 3 : 4, find the probability of occurence of this event.

250) A coin is tossed successively two times. Find the probability of (a) getting both heads (b) getting both tails

251) Find the probability of getting a tail when a coin is tossed once.

252) Find the probability of getting a perfect square number from the numbers 1 to 10.

253) A single letter is selected at random from the word "PROBABILITY". Find the probability that it is a vowel.

254) If three coins are tossed simultaneously, then find the probability of getting no head.

255) Two dice are thrown together. Find the probability of getting one head.

256) If an event occurs surely, then find its probability.

257) If from the face cards of a playing cards, one card is picked up at random, then find the probability that the drawn card is a queen.

258) Find the sum of probability of all the events of an experiment.

259) Two coins are tossed together. Find the probability of getting head on both.

260) If a die is thrown once, find the probability of getting a number less than 3 and greater than 2.

261) In a throw of a pair of dice, what is the probability of getting a doublet or some number?

262) Two dice are thrown simultaneously. Find the Probability of getting a prime number on both dice.

263) In a throw of two dice, find the probability of getting a sum of 10.

264) A box contains cards numbered 6 to 50.A card is down at random from the box.Find the probability that the drawn card has a number which is a perfect square.

265) From a pack of 52 playing cards, a card is drawn at random.Find the probability, that the drawn card is not a face card.

266) From a well shuffled pack of cards, a card is drawn at random.Find the probability of getting a black queen.

267) Two friends were born in the year 2000.What is the probability that they have same birthday?

268) Two dice are thrown together.Determine the probability of two coming on the first die and multiple of three on other die.

269) A bag contains 14balls of which x are white.If 6 more white balls are added to the bag, the probability of drawing a white ball is $\frac{1}{2}$ .Find the value of x.

270) Two coins are tossed together.Find the probability of getting at least one tail.

271) A bag contains 5black, 7 red and 3white balls.A ball is drawn from the bag at random.Find the probability that the ball drawn is:
(i) Black or white
(ii) Not black

272) What is the probability that a non-leap year selected randomly will have 53 Sundays?

273) What is the probability of having 53 Mondays in a leap year?

274) A number is selected at random from first 50 natural numbers. Find the probability that it is a multiple of 3 and 4.

275) A bag contains 2green, 3 red and block balls.A ball is taken out of the bag at random.Find the probability that the selected ball is:
(i) Not green
(ii) Not black

276) A box contains cards numbered from 1 to 17.If one card is drawn at random from the box, find the probability that it bears a prime number.

277) From a group of 2 boys and 2 girls, two children are selected at random.What is the sample space representing the event.Find the probability that one boy and girl is selected.

278) The probability of getting a bad egg from a lot of 400 eggs is 0.035.Find the number of bad eggs in the lot.

279) A bag contains 3 red balls, 5 white balls and 7 black balls.What is the probability that a ball drawn from the bag at random will be neither red nor black?

280) If the probability of an event is p, then the probability of its complementary event

281) A card is selected from a deck of 52 playing cards.Find the probability of a red face card.

282) Find the probability that a leap year selected at random will contain 53 Mondays.

283) When a die is thrown one, find the probability of getting an old number less than 3.

284) A card is drawn from a deck of 52 playing cards.The event E is that card is not an ace of hearts.Find the number of outcomes favourable to E.

285) A girl calculates that the probability of her winning the first prize in a lottery is 0.08. If 6000 tickets are sold, then how many tickets has she bought?

286) One ticket is drawn at random from a bag containing tickets numbered 1 to 40.Find the probability that the selected ticket has a number which is a multiple of 5.

287) Someone is asked to take a number from 1 to 100.Find the probability that it is a prime number.

288) A school has five houses A, B, C, D and E.A class has 23 students, 4 from house A, 8 from house B, 5 from house C, 2 from house D and rest from houseE.A single student is selected at random to be the class monitor.Find the probability that the selected student is not from A, B, and C.

289) A latter of English alphabets is chosen at random.Determine the probability that the letter is a vowel.

290) A coin is tossed 3 times.List the possible outcomes.Find the probability of getting:
(i)All heads
(ii)At least 2 heads

291) Two dice are thrown at the same time. Determine the probability that the difference of the numbers on the two dice is 2.

292) Two dice are thrown at the same time and the product of numbers appearing on them is noted.Find the probability that the product is less than 9.

293) An integer is chosen between 0 and 100.What is the probability that it is
(i)Divisible by 7?
(ii)Not divisible by 7?

294) If a digit is chosen at random from the non-zero digits 1,2,3,4,5,6,7,8 and 9, then the probability that it is an odd.

295) Find the probability of getting a multiple of 3, in a single throw of a die.

296) If a number x is chosen from the numbers 1,2,3 and a number y is chosen from the numbers 4,5,6, then find the probability of product XY less than 12.

297) Red Kings, Queens and Jacks are removed from a deck of playing cards and then well shuffled.A card is drawn from the remaining cards, find the probability of getting:
(i)a space
(ii)a queen
(iii)a red card.

298) A bag contains 12 marbles out of which y are white.
(i)If one marble is drawn at random from the bag, what is the probability that it will be white marble?
(ii)If 6 more white marbles are put in the bag, the probability of drawing a white marble will double than in part (i), find y.

299) Two dice are thrown at the same time.Find the probability of getting different numbers on the dice.

300) From a group of 3 Girls and 2 Boys, two children are selected at random.Find the probability such that at least one boy is selected.

301) In a bag-A, there are four cards numbered 1,3,5 and 7 respectively.In another bag-B, there are three cards numbered 2, 4 and 6 respectively.A card is drawn at random from each bag.
(i)Write the possible outcomes i.e., sample space
(ii)Find the probability that the sum of these two cards drawn is:
(a)7
(b)even
(c)odd
(d)more than 7

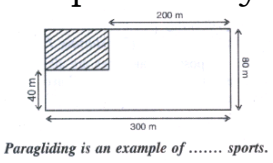
302) Arun has a cubical block with one word written on each face.Come To Learn To Serve
(i)The block is thrown what is the probability of getting 'TO'?
(ii)From where we learn to serve humanity in a formal way?

303) A child has block in the shape of a cube with one word written on each as:

Simple	Sincerity	Living
High	Tolerance	Hard work

(i)The block (cube) is thrown.What is the probability of getting word Tolerance?
(ii)..... living and .....thinking add values to ones life

304) A paraglider is reported to reach somewhere in the rectangular region shown in figure alongside.What is the probability that the paraglider reach in the shaded region?



Paragliding is an example of ..... sports.

305) There is a group of 75 people who are patriotic, 35 people believe in violence.What is the probability of people who believe in non-violence?Which value you will develop in your character?

306) For travelling different mode of transport is used by 500 people are as follows:

Mode of transport	No. of People
Car	80
Scooter	120
Bus	100
Train	70
Cycle	110
No mode of transport	20

Find the probability of number of people:
(i) Used car or scooter only
(ii) Used cycle only
(iii) Used at least one kind of mode of transport
(iv) Which value would you learn from above data

307) In a survey it was found that 50% people use petrol, 30% use diesel; and remaining use CNG for their vehicles.Find the probability that a person chosen at random uses CNG.
(a)Which fuel out of the above three is appropriate for the welfare of the society?

308) Vandana, Sunita and Bimla were fighting to get first chance in a game.Vandana says, "Let us toss two coins.If both heads appear, Bimla will get it and if one head chance, if both tails appears, I will get the chance
(i)What is the probability of Vandana, Sunita and Bimla getting the firt chance?
(ii)Is her decision fair?
(iii)What quality of character is being depicted here?

309) Simon Tuffel was umpire of cricket test match between India and Sri Lanka.There were two types of coins which are shown below:

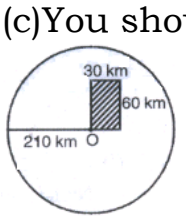
Type (A) A fair coin 
Type (B) An unfair coin(having tail on both sides) 

(a)The coin selected for toss is type A coin.Find the chance of getting a tail on type.
(b)Find the chance of getting a tail on type B coin.
(c)Which type of coin had more chance of getting a tail?
(d) Do you think it was justified to toss by coin B?

310) Three coins are tossed once.Find the probability of getting two heads.

311) Find the probability of getting a red card from well shuffled 52 cards.

312) A ship is reported to reach somwhere in the region shown in figure below.What is the probability that the ship reach in the shaded region?
(i)If on the way back to home from school you suddenly chaange your way to your friends house to do some assignment given to you by your class teacher you should:
(a)Report your parents first
(b)Report your friends parents first
(c)You should not report to any one because work is mpre important than reporting



313) There are 23 boys and 17 girls in a class.If oner student is being selected randomly, then find the probability of selecting a girl student.

314) The integers from 1 to 30 both inclusive are written on cards and these cards are well mixed and put in a box.find the probability of getting an even numbered card.

315) Thed probability of guessingg the correwct answer to certain text questions is $\frac{x}{12}$ .If the probability of nolt guessing the correct answer to this text question is $\frac{3}{4}$, then find the value of x.

316) Three coins are tossed once.Find the probability of getting two tails.

317) The probability of guessing the correct answer to certain text question is $\frac{p}{8}$ .If the probability of not guessing the correc
to this text question is $\frac{3}{4}$, then find the value of p.

318) If P(E)=0.65, then find the probability of 'not E'.

319) In a simultaneous toss of two coins, find the probability of exactly one tail.

320) Find the probability that a leap year has 53 Sundays.

321) Find the probability of getting a number between 1 and 100 which is divisible by 7.

322) Find the probability of getting a prime number in single throw of a die.

323) If two coins are tossed simultaneously, then find the probability of getting at least one head.

324) If the probability of winning a game is 0.995, then find the probability of losing the game.

325) Find the probability of drawing a green coloured ball from a bag containing 6red and 5black balls.

326) Find the probability that a non-leap year selected at random will have 53 Tuesdays.

327) If an event Cannot occur, then write its probability of occurring.

328) Some is asked to select a number from 1 to 30.Find the probability that the selected number is a prime number.

329) Two coins are tossed simultaneously.Find the probability of getting at least one tail.

330) A card is selected at random from a well shuffled deck of 52 playing cards.Find the probability of getting a face card.

331) A jar contains 54 marbles each of which is blue, green or white.The probability of selecting a blue marble from the jar $\frac{1}{3}$ and that of green marble is $\frac{4}{9}$ .How many white marbles does the jar contain?

332) A bag contains 6 black balls and 7 red ball.A ball is drawn at random from the bag.Find the probability that it is a black ball.

333) A bag contains 2 red, 3 green and 4 blue balls.One ball is drawn at random.Write the sample space and find the probability that it is a green ball.

334) An urn contains 8 white balls, 7 black balls, 5 red balls and 4 green balls.A ball is drawn at random from the bag.Find the probability that it is:
(i)Black
(ii)Not green

335) In a lottery, there are 20 prizes and 30 blanks.Find the probability of getting a prize.

336) An urn contains 8 marbles, 3 white and 5 blue.One marble is selected without lookin g, find the probability of getting blue marble, (All marbles are of same size)

337) A game consists tossing a coin 3 times and noting its outcome each time.SAudhir wins if all the three outcomes of same result. i.e., 3 tails or 3 heads and otherwise loses.Find the probability that Sudhir will lose the game.

338) It is known that a box of 500 electric tubes contains 15 defective electric tubes.One tube is taken out at random from this box.What is the probability that it is a non-defective electric tube?

339) A group of scientific men, reported 11705 boys and 11527 girls.If this is a fair sample from the general population, what is the probability that a child to be born will be a boy?

340) Ther eare 33 cards of same size in bag on which numbers 1 to 33 ar3e written.One card is taken out of the bag at random.Find the probability that the number ion the selected card is not divisible by 3

341) Cards with numbers 1 to 100 are placed in a bag.A card is selected at random from the bag.Find the probability that the card is selected has a number which is a perfect square.

342) The Ace, King, Queen and Jack of clubs are removed from a deck of 52 playing cards.The remaining cards are well-shuffled and one card is drawn at random from it.Find the probability of getting the selected card as:
(i)a jack
(ii)a club
(iii)a heart

343) A pair of dice is thrown once, find the probability of obtaining a total of ten.

344) Two dice are thrown at the same time.Find the probability of getting a multiple of 3 on first and a multiple of 2 on the other die.

345) A number x is selected from the number y is selected from the number 2,6,8.What is the probability that the product xy of the two numbers will be less than 24?

346) Cards bearing numbers 1,3,5,....., 35 are kept a bag.A card is drawn at random from the bag.Find the probability of getting a card bearing:
(i)a prime number less than 15
(ii)a number divisible by 3 and 5.

347) The king, queen and jack of diamonds are removed from pack of 52 cards and then the pack is well shuffled.A card is drawn from the remaining cards.Find the probability of getting a card of
(i)diamonds (ii) a jack

348) A box contains cards marked with numbers 5 to 20.A card is drawn from the bag at random.Find the probability of getting a number which is a perfect square.

349) A bag contains 5 red, 4 blue and 3 green balls.A ball is taken out of the bag at random.Find the probability that the selected ball is
(i)Of red colour
(ii)Not of green colour.

350) What is the probability of having 53 Mondays in leap year?

351) From a bag, containing 5 red, 8 black and 7 blue balls, a ball is selected at random.Find the probability that
(Ii)it is not a red ball
(ii)it is not a blue ball.

352) Two friends are visiting a particular shop in the same week (Monday to Friday).Each is equally likely to visit the shop on any day as on another day.What is the probability that the both will visit the shop on:
(i)the same
(ii)consecutive day
(iii)different days.

353) A card is drawn at random from a well shuffled deck of playing cards.Find the probability that the card drawn is:
(i)A card of spade or an ace
(ii)A black king
(iiii)Neither a jack nor a king
(iv)Either a king or a queen

354) Arjun draws a card from a well shuffled deck of 52 cards.Find the probability of getting:
(i)a jack of red suit
(ii)'5' or '9' of club
(iii)a diamond card
(iv)'2' or '3' or '5' of black suit

355) A number is selected at random from first 70 natural numbers, find the probability that:
(i)it is a multiple of 3 and 4
(ii)it is a number divisible by 2 and 3
(iii)it is a perfect square number

356) In a cooperative society, 45 people go to same office.They all use their own conveyance.17 people use their scooter, 8 go by their cars and the rest use their motorcycles.
(a)what is the probability of people going by motorcycle?
(b)One day they all decided to go by cards but a car can accommodate only 5people.What is the probability of people going by car now?
(c)What is probability of people not going by cars now?
(d)Which value is shown in 'b'?

357) A group of teacher decided to spread door-to-door awareness regarding importance of girl education in some village.10 teachers went to village M.26 to village N, 15 to village O and 14 to village P.A teacher is selected at random
(a)What is the probability that the she/he visited village N?
(b)Which traits of personality are reflected in this act of the teachers?
(c)Why is girl education important according to you?

358) A survey was conducted in a residential society in which it was discovered that 32 households believe in hard work, 22 believe in self-confidence and 26 believe in punctuality for attaining success in life.What is the probability for attaining success in life.What is the probability that a person chosen at random believes in self-confidence?
Which value, according to you, contributes the most in attaining success in life?

359) Two dice are thrown simultaneously.Find the probability that the sum of the two numbers appearing on the top is less than or equal to 10.

360) The king, queen and jack of diamonds are removed from a pack of 52 cards and then the pack is well shuffled.A card is drawn from the remaining cards.Find the probability of getting a card of:
(i)Diamonds
(ii)A jack

361) A bag congains 5 red, 4 blue and 3 green balls.A ball is taken out of the bag at random.Find the probability that the selected ball is:
(i) of red colour (ii) Not of green colour

362) A card is drawn at random from a well shuffled deck of playing cards.Find the probability of drawing a :
(i)face card
(ii)card which is neither a king nor a red card.

363) A box contains cards bearing numbers from 6 to 70.If one card is drawn at random from the box, find the probability that it is:
(i)A one digit number
(ii)A number divisible by 5.

364) What is the probability of havin g 53 Mondays in a leap year?

365) From a bag containing 5 red, 8 black and 7 blue balls, a ball is selected at random.Find the probability that:
(i)It is not a red ball
(ii)It is not a blue ball

366) A die is thrown once.Find the probability of getting:
(i)A prime number
(ii)A number divisible by 2

367) A die is thrown once.Find the probability of getting:
(i)An number prime number
(ii)A multiple of 3.

368) Two dice are thrown simultaneously.What is the probability that:
(i)5 will not come up on either of them
(ii)5 will not up come up on at least one?
(iii)5 will come up at both dice?

369) A bag contains cards which are numbered from 2 to 90.A card is drawn at random from the bag.Find the probability that it bears:
(i)A two-digit number
(ii)A number which is a perfect square.

370) A card is drawn at random from a well shuffled pack of 52 playing cards.Find the probability of getting a red face.

371) Cards bearing number 1,3,5,....,35 bare kept in a bag.card is drawn at random from the bag.Find the probability of getting a card bearing
(i)A prime number less than 15
(ii)A number divisible by 3 and 5

372) Two dice are rolled once.Find the probability of getting such numbers on two dice, whose product is a perfect square.

373) Two dice are rolled once.Find the probability of getting such number on the two dice, whose product is 12.

374) Two different dice are thrown at the same time.Find the probability that the sum of the two numbers appearing on the top of the dice is 7.

375) A game consists of tossing a coin 3 times and noting its outcome each time.Hanif wins if he gets three heads or three tails, and loses otherwise.Calculate the probability that Hanif will lose the game.

376) A box contains 80 discs which are numbered from 1 to 80.If one disc is drawn at random from the box, find the probability that it bears
(i) a perfect square number.
(ii) a number divisible by 2 and 3.

377) Cards marked with numbers 5,6,7,....,74 are placed in a bag and mixed thoroughly. One card is drawn at random from the bag. Find the probability that the number on the card is a perfect cube.

378) There are 8 men and 7 women candidates appearing in an interview for filling up one vacant post.Find the probability that:
(a)A man is selected
(b)A woman is selected

379) A bag contains 20 oranges, 10 apples and 40 mangoes.One fruit is taken out at random from the bag.Find the probability that the drawn fruit is:
(a)An apple (b)An apple or orange
(c)A mango (d)Not an orange

380) A die is tossed once.Write the sample space.

381) Two coins are tossed once.Write the sample space.

382) In a simultaneous toss of two coins, find the probability of exactly one tail.

383) Two dice are thrown simultaneously, what is the probability of getting a sum of 8?

384) Gugu throws a die once.What is the probability that she shows a number less than 5?

385) Why probability of an event cannot be greater than 1?

386) Why probability of an event cannot be negative?

387) What is the probability of an impossible event?

388) What is the probability of a sure event?

389) Ina single throw of a die, what is the probability of getting 3?

390) If the probability of occurrence of an event is 0.9, what is the probability of its non-occurrence?

391) What is the probability of number between 1 to 20, which is divisible by 2 and 3.

392) Three coins are tossed once, write the possible outcomes.

393) Write the sample space, if one student is selected from 4 girls and 3 boys.

394) A die is thrown once.Find the probability of getting a number lying between 2 and 6.

395) From a well shuffled pack of cards, a card is drawn at random.Find the probability of getting a black queen.

396) A box contains cards marked with numbers 5 to 20.A card is drawn from the bag at random.Find theprobability of getting a number which is a perfect square

397) In a simultaneous toss of two coins, find the probability of exactly one head.

398) A die is thrown once. Then, find the probability of getting a number less than 3.

399) Two coins are tossed simultaneously. Then, find the probability of getting no head.

400) Find the sum of probability of all the elementary events of an experiment.

401) A card is drawn from a pack of 52 cards. Find probability of drawing red face card

402) If a die is thrown, what is the probability of getting a number less than3 and greater than 2?

403) Cards marked with numbers 5 to 75 are placed in a box and mixed thoroughly. One card is drawn from the box. Find the probability that the number on the card is even.

404) The probability of guessing the correct answer to a certain test is p/12. If the probability of not guessing the correct answer to this question is 3/4, then find the value of p?

405) The probability of getting a rotten egg from a lot of 400 eggs is 0.035. Find the number of rotten eggs in the lot.

406) A die is thrown once. Find the probability of getting a number which is not a factor of 36.

407) Find the probability that a leap year selected at random will contain 53 Sundays

408) A number is chosen from 1 to 100. Find the probability that it is a prime number.

409) Find the probability of getting multiple of 3 in a single throw of an ordinary die.

410) An ordinary die is thrown once. What is the probability that the number appearing on the ordinary die is greater than 3?

411) One card is drawn at random from a well-shuffled deck of 52 cards. What is the probability of drawing a king?

412) A card is drawn from a well-shuffled pack of 52 cards. Find the probability that the card drawn is neither a black card nor a queen.

413) A bag contains 2 green, 3 red and 4 black balls. A ball is taken out of the bag at random. Find the probability that the selected ball is
(i) not green
(ii) not black

414) A die is thrown once. What is the probability of getting a prime number?

415) If two dice are thrown, then find the probability of getting an odd number on one and multiple of 3 on other die.

416) Two coins are tossed simultaneously. What is probability of getting atleast one head?

417) Two dice are thrown at the same time. Find the probability that the sum of the two numbers appearing on the top of the dice is more than 9.

418) In a lottery, there are 10 prizes and 25 blanks. What is the probability of getting a prize?

419) Cards bearing numbers 2, 3, 4, ..., 11 are kept in a bag. A card is drawn at random from the bag. Find the probability of getting a card with a prime number.

420) Apooru throws two dice once and completes the product of the numbers appearing on the dice. Peehu throws one die and squares the number that appears on it. Who has the better chance of getting the number 36? Why?

421) In a tossing a die, find the probability of getting an odd number less than 4.

422) A bag contains 4 red, 7 white and 2 yellow balls. If a ball is drawn from it, then find the probability that it is not red.

423) In a leap year, find the probability that there are 53 Monday in a year.

424) If in a lottery, there are 5 Prizes and 20 blanks, then find the probability of getting a prize.

425) If the probability of an event is 0.65, then find the probability of not happening of that event.

426) What is the probability of getting exactly two tails, when to coins are tossed together?

427) A bag contains 6 white and 4 red balls. A ball is drawn at random from the bag. Find the probability that it is a black ball.

428) If P(E)=0.15, then find P(not E).

429) A die is thrown once. Find the probability of getting
(i) an even prime number
(ii) a multiple of 3.

430) Five cards - the ten, jack, queen, king and ace of diamonds, are well shuffled with their face downwards. One card is then picked up at random. What is probability that
(i) the card is ten or jack?
(ii) that the card is king?

431) A die is thrown twice, find the probability of getting 4,5 or 6 in the first throw and 1,2,3 or 4 in the second throw.

432) In a cricket match, a batsman hits the boundary 8 times out of 40 balls he plays. Find the probability that he did not hit the boundary.

433) What is the probability of non-occurance of an event that is certain to happen?

434) The probability that it will rain today is 0.07. What is the probability that it will not rain today?

435) A die is thrown once. Find the probabiltiy of getting an even number less than 5.

436) Cards marked with numbers 5 to 75 are placed in a box and mixed throughly. One card is drawn from the box. Find the probability that the number on the card is odd.

437) A letter is chosen at random from the English alphabet. What is the probability that it is a letter of the word 'RAMANUJAN'?

438) A number x is chosen at random from the numbers - 4, - 3, - 2, - 1, 0, 1, 2, 3, 4. What is the probability that $|X| < 2$?

439) A number is selected from the numbers 2, 3, 3, 5, 5, 5, 7, 7, 7, 7, 9, 9, 9, 9, 9 at random. find the probability that the number selected is
(i) their median
(ii) their mode

440) In a throw of a die, find the probability of getting an odd number less than 6.

441) A box contains 90 discs, numbered from 1 to 90. In one disc is drawn at random from the box, find the probability that it bears a prime number less than 23.

442) Find the probability that a number selected at random from the numbers 1, 2, 3, ..., 15 is a multiple of 4.

443) If P (E)=0.15, then find P (not E)?

444) If I toss a coin 3 times and get head each time. then I should expect a tail to have a higher chance in the 4th toss. Is it true?

445) In a family of 3 children, find the probability of having atleast one boy.

446) A bag contains 6 red, 3 black and 6 white balls. A ball si selected at random from the bag. Find the probability that the selected ball is
(i) red or black
(ii) not black

447) Two dice are thrown simultaneously. What is the probability that
(i) 3 will not come up on atleast one die?
(ii) 3 will come up on both dice?

448) A die is thrown once. Find the probability of getting "at most 2."

449) Out of 200 bulbs in a box, 12 bulbs are defective. One bulb is taken out at random from the box.What is the probability that the drawn bulb is not defective?

450) A card is drawn at random from a well shuffled pack of 52 cards. Find the probability of getting neither a red card nor a queen.

451) Cards marked with number 3, 4, 5,....., 50 are placed in a box and mixed thoroughly. A card is drawn at random from the box. Find the probability that the selected card bears a perfect square number.

452) What is the probability that a non-leap year has 53 Mondays?

453) Two different dice are tossed together. Find the probability that the product of the number on the top of the dice is 6.

454) If the probability of winning a game is $\frac{5}{11}$, find the probability of losing the game.

455) If E be an event such that P(E) = $\frac{3}{7}$, what is P(not W) equal to?

456) Find the probability of an impossible event.

457) A bag contains cards numbered from 1 to 25. A card is drawn at random from the bag. Find the probability that number is divisible by both 2 and 3.

458) A number is selected at random from I to 30. Find the probability that it is a prime number.

459) If P(E) = 0.20, then what is the probability of 'not E' ?

460) From the number 3, 5, 5, 7, 7, 7, 9, 9, 9, 9, one number is selected at random, what is the probability that the selected number is mean?

461) A die is thrown once. What is the probability of getting a prime number.

462) A girl calculates the probability of her winning the game in a match and find it 0.08.What is the probability of her losing the game?

463) Find the probability of getting a sum of 9, when two dice are thrown simultaneously.

464) Can 1.1 be probability of an event?

465) There are 30 cards of the same size in a bag in which the number» 1 to 30 are written. One card is taken out of the bag at random. Find the probability that the number on the selected card is not divisible by 3.

466) A bag contains cards with numbers written on it from 1 - 80. A card is pulled out at random. Find the probability that the card shows a perfect square.

467) A bag contains 6 red and 5 blue balls. Find the probability that the ball drawn is not red.

468) Harpreet tosses two different coins simultaneously. What is the probability that she at gets: one head and one tail?

469) A bag contains cards bearing numbers from 11 to 30. A card is taken out from the bag at random. Find the probability that the selected card has multiple of 5 on it.

470) A bag contains 5 red, 8 green and 7 white balls. One ball is drawn at random from the bag, find the probability of getting:
(i) not a white ball,
(ii) neither a green nor a red ball.

471) Two dice are rolled simultaneously. Find the probability that the sum of numbers appearing is 10.

472) A bag contains 3 red, 4 green and 5white candles, one candle is drawn at random from the bag, find the probability that candle is not red.

473) In a family of two children find the probability of having atleast one girl.

474) Find the probability that a leap year has 53 sundays.

475) Two coins are tossed together.Find the probability of getting both heads or both tails.

476) One card is drawn from a well shuffled deck of 52 cards. Find the probability of getting:
(i) a non face card,
(ii) a black king.

477) Two dice are thrown together. What is the probability of getting a doublet?

478) What is the probability that there are 53 Wednesdays in a leap year?

479) A number x is chosen from 25, 24, 23, -2, -1, 0, 1, 2,3. Find the probability that IxI < 3.

480) A bag contains 20 balls out of which x balls are red.
(i) If one ball is drawn at random from the bag, find the probability that it is not red.
(ii] If 4 more red balls are out into the bag, the probability of drawing a red ball will be $\frac{5}{4}$ times the probability of drawing a red ball in the first case. Find the value of x.

481) In fig. a disc on which a player spins an arrow twice. The $\frac{a}{b}$ fraction is formed, where' a' is the number of sector a i Which arrow stops on the first spin and 'b' is the number of the sector in which the arrow stops on second spin, On each spin, each sector has equal chance of selection by the arrow. Find the probability that the fraction $\frac{a}{b} > 1$.

482) A bag contains 25 cards numbered from 1 to 25. A card is drawn at random from the bag. Find the probability that the number on the drawn card is :
(i) divisible by 3 or 5

483) A bag contains 25 cards numbered from 1 to 25. A card is drawn at random from the bag. Find the probability that the number on the drawn card is :
a perfect square number.

484) A dice is rolled twice. Find the probability that:
(i) 5 will not come up either time.
(ii) 5 will come up exactly one time.

485) The king, queen and jack of clubs are removed from a pack of 52 playing cards and then the remaining pack is well shuffled. One card is selected from the remaining cards. Find the probability of getting:
(i) a heart,
(ii) a king,

486) A bag contains 6 red balls and some blue balls. If the probability of drawing a blue ball from the bag is twice that of a red ball, find the number of blue balls in the bag.

487) The king, queen and jack of clubs are removed from a pack of 52 playing cards and then the remaining pack is well shuffled. One card is selected from the remaining cards. Find the probability of getting:
(i) a club,
(ii) a diamond,
(iii) a jack.

488) A child has a die whose 6 faces show the letters given below:

489) If the probability of winning a game is 0.07, then what is the probability of losing it?

490) Find the probability that a non-leap year selected at random will contain 53 Sundays.

491) Two different dice are tossed together. Find the probability:
(i) of getting a doublet
(ii) of getting a sum 10 of the numbers on the two dice.

492) An integer is chosen at random between 1 and 100. Find the probability that it is
(i) divisible by 8.
(ii) not divisible by 8.

493) Two dice, one red and one black are thrown simultaneously. A student of class X makes the following table.

Event: Sum on 2 dice	1	6	12	15
Probability	0	$\frac{5}{36}$	$\frac{1}{36}$	0

Ritu observes the above table and remarks that it is correct. Is she right? Explain

494) There are 80 cards numbered from 1 to 80. One card is drawn at random from them. Find the probability that the number on the selected card is not divisible by 8.

495) One card is drawn at random from a well shuffled deck of 52 cards. Find the probability that the card drawn
(a) is queen of hearts.
(b) is not a jack.

496) Shivesh was tossing a fair coin. Shown below are the outcomes of his first 5 tosses.
Tail Tail Tail Tail Tail
Is the probability of Shivesh getting a head in his sixth toss higher than the probability of getting a tail? Give a valid reason.

497) A die is thrown once. What is the probability of getting a number less than 3?

498) In a family having three children, there may be no girl, one girl, two girls or three girls. So, the probability of each is $\frac{1}{4}$. Is it true?

499) A 4-sided fair die is numbered 1-4. Nikhil and Pratik are playing with such a die each. They roll their dice once at the same time. A player wins only if they get a number larger than the other player. What is the probability of Pratik winning the game? Show your work.

500) Rohan has a bag of multiple balls either pink, green or yellow in colour. He randomly picks up one ball. His friend, Farid predicted, "The probability of Rohan picking a pink ball is definitely $\frac{1}{3}$ as there are 3 colours". Is Farid's statement true or false. Give a valid reason or a counter example.

3 Marks 124 x 3 = 372

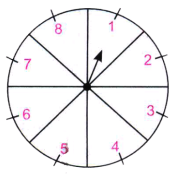
501) A bag contains 3 red balls and 5 black balls. A ball is drawn at random from the bag. What is the probability that the ball drawn is (i) red? (ii) not red?

502) A box contains 5 red marbles, 8 white marbles and 4 green marbles. One marble is taken out of the box at random. What is the probability that the marble taken out will be (i) red? (ii) white? (iii) not green?

503) A piggy bank contains hundred 50 paise coins, fifty Rs. 1 coins, twenty Rs. 2 coins and ten Rs. 5 coins. If it is equally likely that one of the coins will fall out when the bank is turned upside down, then what is the probability that the coin
(i) will be a 50 paise coin?
(ii) will not be a Rs. 5 coin?

504) Gopi buys a fish from a shop for his aquarium. The shopkeeper takes out one fish at random from a tank containing 5 male fish and 8 female fish (see Fig.). What is the probability that the fish taken out is a male fish?

505) A game of chance consists of spinning an arrow which comes to rest pointing at one of the numbers 1, 2, 3, 4, 5, 6, 7, 8 (see Fig.), and these are equally likely outcomes. What is the probability that it will point at
(i) 8 ?
(ii) an odd number?
(iii) a number greater than 2?
(iv) a number less than 9?



506) A die is thrown once. Find the probability of getting
(i) a prime number.
(ii) a number lying between 2 and 6.
(iii) an odd number

507) Five cards - the ten, jack, queen, king and ace of diamonds, are well shuffled with their face downwards. One card is then picked up at random.
(i) What is the probability that the card is the queen?
(ii) If the queen is drawn and put a side, what is the probability that the second card picked up is
(a) an ace?
(b) a queen?

508) 12 defective pens are accidentally mixed with 132 good ones. It is not possible to just look at a pen and tell whether or not it is defective. One pen is taken out at random from this lot. Determine the probability that the pen taken out is a good one.

509) (i) A lot of 20 bulbs contain 4 defective ones. One bulb is drawn at random from the lot. What is the probability that this bulb is defective?
(ii) Suppose the bulb drawn in (i) is not defective and is not replaced. Now one bulb is drawn at random from the rest. What is the probability that this bulb is not defective?

510) A lot consists of 144 ball pens of which 20 are defective and the others are good. Nuri will buy a pen if it is good, but will not buy if it is defective. The shopkeeper draws one pen at random and gives it to her. What is the probability that (i) She will buy it ? (ii) She will not buy it ?

511) A game consists of tossing a one rupee coin 3 times and noting its outcome each time. Hanif wins if all the tosses give the same result i.e., three heads or three tails, and loses otherwise. Calculate the probability that Hanif will lose the game.

512) A die is thrown twice. What is the probability that
(i) 5 will not come up either time?
(ii) 5 will come up at least once?
[Hint : Throwing a die twice and throwing two dice simultaneously are treated as the same experiment]

513) Which of the following arguments are correct are not correct? Give reasons for your answer.
(i) If two coins are tossed simultaneously there are three possible outcomes two heads, two tails or one of each. Therefore, for each of these outcomes, the probability is $\frac{1}{3}$
(ii) If a die is thrown, there are two possible outcomes an odd number or an even number. Therefore, the probability of getting an odd number is $\frac{1}{2}$

514) Harpreet tosses two different coins simultaneously (say, one is of Rs.1 and other of Rs.2).What is the probability that she at least one head?

515) A carton consists of 100 shirts of which 88 are good, 8 have minor defects and 4 have major defects. Jimmy, a trader, will only accept the shirts which are good, but Sujatha, another trader, will only reject the shirts which have major defects. One shirt is drawn at random from the carton. What is the probability that
(i) it is acceptable to Jimmy?
(ii) it is acceptable to Sujatha?

516) Find the probability of getting a head when a coin is tossed once. Also find the probability of getting a tail.

517) A bag contains a red ball, a blue ball and a yellow ball, all the balls being of the same size. Kritika takes out a ball from the bag without looking into it. What is the probability that she takes out the
(i) yellow ball?
(ii) red ball?
(iii) blue ball?

518) A bag contains 5 white balls, 7 red balls, 4 black balls and 2 blue balls. One ball is drawn at random from the bag. What is the probability that the ball drawn is
(i) white or blue
(ii) red or black
(iii) not white
(iv) neither white nor black

519) A card is drawn at random from a well-shuffled deck of playing cards. Find the probability that the card drawn is (i) a king or a jack (ii) a non-ace (iii) a red card (iv) neither a king nor a queen

520) A box contains 19 balls bearing numbers 1, 2, 3, ..., 19. A ball is drawn at random from the box. What is the probability that the number on the ball is
(i) a prime number (ii) divisible by 3 or 5
(iii) neither divisible by 5 nor by 10 (iv) an even number

521) From a pack of 52 playing cards, jacks queens, kings and aces of red colour are removed. From the remaining a card is drawn at random. Find the probability that the card known is
(i) a black queen (ii) a red card
(iii) a black jack (iv) a picture card (jacks, queens and kings are picture cards)

522) A bag contains 5 red balls and some blue balls. If the probability of drawing a blue ball from the bag is thrice that of a red ball, find the number of blue balls in the bag.

523) Two dice are thrown simultaneously. What is the probability that
(a) 5 will not come up on either of them?
(b) 5 will come up on at least one?
(c) 5 will come up at both dice?

524) Two dice are rolled once. Find the probability of getting such numbers on two dice, whose product is a perfect square.

525) One card is drawn from a well-shuffled deck of 52 cards. Find the probability of drawing : (i) an ace (ii) '2' spades (iii) '10' of a black suit

526) Cards marked with the numbers 2 to 101 are placed in a box and mixed thoroughly. One card is drawn from this box. Find the probability that the number on the card is
(i) an even number (ii) a number less than 14
(iii) a number which is a perfect square (iv) a prime number less than 20.

527) Find the probability that a number selected at random from the numbers 1, 2, 3, ..., 35 is a
(i) prime number (ii) multiple of 7 (iii) multiple of 3 or 5

528) A box has cards numbered 14 to 99. Cards are mixed thoroughly and a card is drawn from the bag at random. Find the probability that the number on the card, drawn from the box is
(i) an odd number (ii) a perfect square number
(iii) a number divisible by 7

529) From a well-shuffled pack of playing cards, black jacks, black kings and black aces are removed. A card is then drawn at random from the pack. Find the probability of getting
(a) a red card. (b) not a diamond card.

530) The king, queen and jack of clubs are removed from a deck of 52 playing cards and then well-shuffled. One card is selected from the remaining cards. Find the probability of getting
(i) a heart (ii) a king (iii) a club (iv) the '10' of hearts

531) From a group of 3 boys and 2 girls we select two children. What is the set representing the event: (i) one girl is selected (ii) at least one girl is selected?

532) Box A contains 25 slips of which 19 are marked Rs. 1 and other are marked Rs. 5 each. Box B contains 50 slips of which 45 are marked Rs 1 each and others are marked Rs 13 each. Slips of both boxes are poured into a third box and reshuffled. A slip is drawn at random. What is the probability that it is marked other than Rs 1?

533) A die has its six faces marked 0, 1, 1, 1, 6, 6. Two such dice are thrown together and the total score is recorded.
(i) How many different scores are possible?
(ii) What is the probability of getting a total of 7?

534) A lot consists of 48 mobiles phones of which 42 are good, 3 have only minor defects and 3 have major defects. Varnika will buy a phone if it is good but the trader will only buy a mobile if it has no major defect. One phone is selected at random from the lot. What is the probability that it is
(i) acceptable to Varnika?
(ii) acceptable to the trader?

535) A number is selected at random from the numbers 3, 5, 5, 7, 7, 7, 9, 9, 9, 9. Find the probability that the selected number is their average.

536) If a number x is chosen from the number 1, 2, 3 and a number y is selected from the numbers 1, 4, 9. Find the probability that xy = 10.

537) A number x is chosen from the numbers - 4, - 3, - 2, - 1, 0, 1, 2, 3, 4. Find the probability that $|x| < 3$.

538) Three different coins are tossed together. Find the probability of getting
(i) exactly two heads
(ii) at least two heads
(iii) at least two tails.

539) From a pack of 52 playing cards, Jacks, Queens and Kings of red colours are removed. From the remaining, a card is drawn at random. Find the probability that drawn card is : (i) a black king (ii) a card of red colour (iii) a card of black colour

540) There are 100 cards in a bag on which numbers from 1 to 100 are written. A card is taken out from the bag at random. Find the probability that the number on the selected card
(i) is divisible by 9 and is a perfect square
(ii) is a prime number greater than 80.

541) In a single throw of a pair of different dice, what is probability of getting (i) a prime number on each dice? (ii) a total of 9 or 11?

542) Two different dice are thrown together. Find the probability of: (i) getting a number greater than 3 on each die (ii) getting a total of 6 or 7 of the numbers on two dice

543) A box consists of 100 shirts of which 88 are good, 8 have minor defects and 4 have major defects. Ramesh, a shopkeeper will buy only those shirts which are good but 'Kewal' another shopkeeper will not buy shirts with major defects. A shirt is taken out of the box at random. What is the probability that
(i) Ramesh will buy the selected shirt?
(ii) 'Kewal' will buy the selected shirt?

544) A jar contains 24 marbles, some are green and others are blue.If a marble is drawn at random from the jar, the probability that it is green is $\frac{2}{3}$ .Find the number of blue marbles.

545) From a bag containing 5red, 8 black and 7blue balls, a ball is selected at random.Find the probability that:
(i)It is not a red ball
(ii)It is not a blue ball

546) A die is thrown once.Find the probability of getting:
(i)A prime number
(ii)A umber divisible by 2
(iii)A multiple of 3

547) A card is drawn from a well shuffled deck of 52 cards.Find the probability of getting:
(i)A king of red colour
(ii)A face card
(iii)The queen of diamonds.

548) A box contain 100red cards, 200 yellow cards and 50blue cards.If a card is drawn at random from the box, the find the probability that it will be:
(i)A blue card
(ii)Not a yellow card
(iii)Neither yellow nor a blue card.

549) A box contains 35blue, 25 white and 40 red marbles.If a marble is drawn at random from the box, find the probability that the drawn marble is:
(iWhite
(ii)Not blue
(iii)Neither white nor blue

550) A box contains 70cards numbered from 1 to 70.If one card is drawn at random from the box, find the probability that it bears:
(i)A perfect square number
(ii)A number divisible by 2 and 3

551) In a single throw of two dice, find the probability of getting:
(i)A total of 7
(ii)A total of 11
(iii)Six as product

552) Three coins are tossed simultaneously.Find the probability of getting:
(a)Three heads
(b)Exactly 2 heads
(c)At least 2 heads

553) A bag contains 19cards, bearing numbers 1,2,3,...,, 19.A card is drawn at random from the bag.Find the probability that number on the drawn card is:
(i)Prime
(ii)Divisible by 3

554) Cards marked with numbers 13, 14, 15, ..., 60 are placed in a box and mixed thoroughly.One card is drawn at random from the box.Find the probability that the number on the card is:
(a)Divisible by 5
(b)A number which is a perfect square.

555) An urn contains 8 red, 6white, 4 black balls.A ball is drawn at random from the urn.Find the probability that the drawn ball is:
(i)Red or white
(ii)Neither black nor white

556) Cards numbered from 1 to 64 are placed in a box.A card is drawn at random from the box.Find the probability that the card number on the card drawn is a perfect cube.

557) A box contains 100 tokens on which 1 to 100 are marked.One token is drawn at random from the box.Find the probability that number on the token is:
(a)A perfect
(b)An even number

558) From a well shuffled pack of 52 playing cards, black jacks, black kings and black aces are removed.A card is then drawn at random from the remaining pack.Find the probability of getting:
(a)A red card
(b)Not a diamond card.

559) Ankita and Nagma are two friends.They were both born in 1990.What is the probability that they have
(i)Same birthday
(ii)Different birthdays?

560) Two dice are thrown simultaneously.What is the probability that the sum of the numbers appearing on the dice is:
(i)7?
(ii)A prime number?
(iii)1?

561) Two dice are thrown together.Find the probability that the product of the numbers on the top of the dice is:
(i) 6
(ii) 12
(iii) 7

562) A bag contains 24 balls of which x are red, 2x are white and 3x are blue.A ball is selected at random.What is the probability that it is:
(i)Not red?
(ii)White?

563) At a fete, cards bearing numbers 1 to 1000, one number on one card, are put in a box.Each player selects one card at random and that card is not replaced.If the selected card has a perfect square greater than 500, the player wins a prize.What is the probability that:
(i)the first player wins a prize?
(ii)The second player wins a prize, if the first has won?

564) All the jacks, queens and kings are removed from a deck of 52 playing cards.The remaining cards are well shuffled and then one card is drawn at random.Giving ace a value 1 similar value for other cards, find the probability that the card has a value:
(i)7
(ii)Greater than7
(iii)Less than7

565) A box contains 10red marbles, 5blue marbles and 7 green marbles.One marble is taken out of the box at random.What is the probability that the marble taken out will be:
(i)Red?
(ii)Green?
(iii)Not blue?

566) Two dice are thrown at the same time.Find the probability of getting:
(i)Same number on both dice
(ii)Different numbers on both dice

567) A carton of 24 bulbs contains 6 defective bulbs.One bulb is drawn at random.What is the probability that the bulb is not defective? If the bulb selected is defective and it is not replaced and a second bulb is selected at random from the rest, what is the probability that the second bulb is defective?

568) A bag contains 4 black, 8 red and 6 white balls.One ball is drawn at random from the bag.Find the probability that the drawn ball is:
(i)Red or white
(ii)Not block
(iii)Neither white nor black

569) There are three children in a family.Find:
(i)The probability of at most one girl
(ii)The probability of at least one girl
(iii)The probability that there is exactly one girl in the family

570) A girl has a cube with one letter written on each face, as shown below
S T U V W S
The cube is thrown once.What is the probability of getting:
(i)T
(ii)S
(iii)W on the upper most face.

571) The probability of selecting a red ball at random from a jar that contains only red, blue and orange ball is $\frac{1}{4}$ The probability of selecting a blue ball at random from the same jar is $\frac{1}{3}$ .If this jar contains 10 orange balls, than what is the total number of balls in the jar?

572) A bunch of 10 books contains 3 books on mathematics, 2 book is selected at random.Find the probability that:
(i)It is a chemistry
(ii)It is a physics book

573) An urn contains 81 marbles each of which is white, black or green.The probability of selecting a white marble at random from the urn is $\frac{1}{3}$ and the probability os selecting a black marble at random is $\frac{4}{9}$ .How many green marbles does the urn contain?

574) Two customers Neha and Nancy are visiting a particular shop in the same week (Monday to Friday).Each is equally likely to visit the shop on any day as on another day.What is the probability that both will visit the shop on:
(i)The same day
(ii)Consecutive days
(iii)Different days

575) A die is numbered in such a way that its faces show the number, 1,2,23,3,6. It thrown two times and the total score in the two throw is noted. Complete the following table, where given a few values of the total score on the two throws.
Numer in first throw

+	1	2	2	3	3	6
1	2	3	3	4	4	7
2	3	4	4	5	5	8
2					5	
3						
3			5			9
6	7	8	8	9	9	12

What is the probability that the total score is
(i) Even
(ii) 6
(iii) At least 6

576) A bag contains 6 red, 8 black and 4 white balls. A ball is drawn at random. What is the probability that ball drawn is not black?

577) The integers from 1 to 30 are written on chits of paper (one number on each chit). These chits are then put in a box and well mixed. Ramesh picks up one chit. What is the probability that his chit has
(i) the number 5
(ii) an odd number
(iii) a prime number

578) A bag contains tickets, numbered 11,12,13,....,30. A ticket is taken out from the bag at random. Find the probability that the number on the drawn ticket (i) is multiple of 7, (ii) is greater than 15 and a multiple of 5.

579) A card is drawn at random from a well-shuffled deck of 52 cards. Find the probability that the card drawn is
(i) a king or a jack
(ii) a non-ace card
(iii) a red card
(iv) neither a king nor a queen

580) Two dice are thrown simultaneously. Find the probability that the sum of the two numbers appearing on the top is less than or equal to 10.

581) There are 24 teams participating in a Maths competition from 8 different schools, one team per class. Competition is from VIII-X class. Find the probability of
(i) coming first from each class per school.
(ii) getting a prize if there are three prizes per class, I, II and III.

582) Three unbiased coins are tossed simultaneously. Find the probability of getting
(i) exactly 2 heads.
(ii) atmost 2 heads.

583) In answering question of MCQ Test with 4 choices per question, one of them being correct, a student knows the answer, guesses or copies the answer.
(i) What is the probability that is answer is correct, if Shivam does not know the answer to one of the question in the test?
(ii) Which value would Shivam violate, if he copies the answer?
(iii) How would an act like the above, hamper his character development in coming years?

584) Honey goes to school either by a car driven by his driver or uses his bicycle.Probability that he will use the car is 3/7.
(i) What is the probability that he will use his bicycle for going to the school?
(ii) Shyam is the best friend of Ram, which mode of transport should Shyam suggest to Ram for going to the school and why?

585) On Baghpat chauraha crossing, out of 100 people, 9 people jumped traffic light.
(i) Find the probability of people not jumping traffic light.
(ii) Which mathematical concept will be used to solve the above problem?
(iii) What value is violated by the people in doing so?

586) Miss Deepanshi earns RS.30000 in a month. She spends RS.25000 on her needs.
(i) What is the probability of her savings?
(ii) Which mathematical concept will be used to solve the above problem?
(iii) What value is depicted from it?

587) Cards with numbers 2 to 101 are placed in a box. A card is selected at random. Find the probability that the card has
(i) an even number
(ii) a square number

588) Two dice are thrown together. Find the probability that the product of the numbers on the top of the dice is
(i) 6
(ii) 12
(iii) 7

589) A number x is chosen from the numbers 1,2,3 and a number y is selected from the numbers 1,4,9. Find the probability that xy=10.

590) A number is chosen at random among the first 120 natural numbers. Find the probability of the number chosen being a multiple of 5 or 15.

591) Three unbiased coins are tossed together. What is the probability of getting
(i) two heads?
(ii) atleast two heads?
(iii) atmost two heads?

592) Anita, Sita, Gita and Rita are four friends. What is the probability that (in a non-leap year)
(i) all will have same birthday
(ii) their birthdays fall in the month of October.
(iii) their birthdays fall on 10th day of the months.
(iv) their birthdays fall in January or February

593) In a game of musical chair, the person playing music has been advised to stop playing the music will stop within the first 20 s after starting?

594) A traffic signal displays green light for 2 min to allow passage of traffic on a particular road. If the signal is currently displaying green light, then find the probability that, it will turn red within the next half a minute.

595) From the numbers 1,2,3 one number x is selected and from the numbers 1,4,9, second number y is selected. Find the probability that the
(i) product of two numbers is less than 9.
(ii) product of two numbers is more than 13.
(iii) sum of two numbers is 12.

596) Two coins are tossed simultaneously. Find the probability of getting
(i) exactly two head
(ii) atleast one head

597) Two dice are thrown simultaneously. Find the probability of getting a multiple of 2 on one die and a multiple of 3 on the other die.

598) The king, queen and jack of spades are removed from a deck of 52 playing cards and then well-shuffled. One card is selected from the remaining cards. Find the probability of getting
(i) a spade
(ii) a king

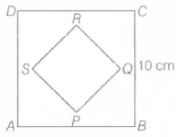
599) Three bags containing 10 orange, 10 green and 10 red balls, respectively are mixed to gether in one large bag. If one of the balls is taken out at random without looking into the bag, then what is the probability that it is
(i) orange
(ii) not orange

600) Two players Neha and Shivani play a tennis match. It is known that the probability of Neha winning the match is 0.62. What is the probability of Shivani winning the match?

601) A box contains 12 balls out of which x are black. If one ball is drawn from the box. what is the probability that it will be a black ball. If 12 more black balls are put in the box, the probability of drawing a black ball now is double of what it was before. Find the value of x.

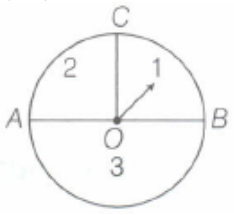
602) A traffic signal displays green light for 3 min to allow passage of traffic on a particular road. If the signal is currently displaying green light, then find the probability that it will turn red within the next half a minute.

603) A square of side 5 cm is drawn in the interior of another square of side 10 cm and shaded as shown in the following figure.



A point is selected at random from the interior of square ABCD. What is the probability that the point will be chosen from the shaded part?

604) A game of chance consists of an arrow which comes to rest pointing at one of the regions 1, 2 or 3. O is the centre of the circle, $OC \perp AB$.
Find the probability that
(i) arrow is resting on 3.
(ii) arrow is resting on 1.
(iii) arrow is not resting on 2.



605) A bag contains cards numbered 1 to 49. Find the probability that the number on the drawn card is:
(i) an odd number
(ii) a multiple 5
(iii) Even prime

606) Two unbiased coins are tossed simultaneously. find the probability of getting:
(i) atleast one head.
(ii) atmost one head
(iii) no head

607) A game consists of tossing a one-rupee coin 3 times and noting the outcome each time. Ramesh will win the game if all the tosses show the same result, (i.e either all three heads or all three tails) and loses the game otherwise. Find the probability that Ramesh will lose the game.

608) A box contains 100 cards marked from 1 to 100. If one card is drawn at random from the box, find the probability that it bears:
(i) a single digit number
(ii) a number which is a perfect square
(iii) a number which is divisible by 7

609) Cards numbered 2 to 101 are placed in a box. A card is selected at random from the box, find the probability that the card selected:
(i) has a number which is a perfect square.
(ii) has an odd number which is not less than 70.

610) All red face cards are removed from a pack of playing cards. The remaining cards are well shuffled and then a card is drawn at random from them. Find the probability that the drawn card is:
(i) a red card
(ii) a face card
(iii) a card of clubs

611) Two different dice are rolled together. Find the probability to getting:
(i) the sum of numbers on two dice to be 5
(ii) even number on both dice.

612) One card is drawn from a well shuffled deck of 52 cards. Find the probability of getting (a) Non face card,
(b) Black king or a Red queen,
(c) Spade card.

613) Three coins are tossed Simultaneously once. Find the probability of getting:
(i) at least one tail,
(ii) no tail.

614) a game consists of tossing a one-rupee coin three times and noting its outcome each time. Find the probability of getting:
(i) three heads,
(ii) at least two tails.

615) One card is drawn from a well-shuffled deck of 52 cards. Find the probability of getting:
(i) a red face card,
(ii) a spade,
(iii) either a king or a black cards.

616) Two dice are thrown at the same time.Find the probability of getting:
(i) sum of two numbers appearing on both the dice is 8.

617) Five Cards, ten, Jack, Queen, King and Ace of diamonds are well shuffled. One card is picked up from them.
(i) Find the probability that the drawn card is Queen.
(ii) If Queen is put aside, then find the probability that the second card drawn is an ace.

618) A game of chance consists of spinning an arrow which comes of rest pointing at one of the number 1, 2, 3, 4, 5, 6, 7, 8 (see figure) and there are equally likely outcomes. What is the probability that it will point at:
(i) What is its value?

619) A piggy bank contains hundred 50 coins, fifty Rs. 1 coins, twenty Rs. 2 coins and ten Rs. 5 coins. If it is equally likely that one of the coins will fall out when the bank is turned upside down, what is the probability that the coin:
(i) Which mathematical concept is used in the above problem?
(ii) Which value is discussed above?

620) Cards numbered 1, 2, 3, 4, 5, ..., 17 are put in a box and mixed thoroughly. One person draws a card from the box. Find the probability that the number on the card is
(i) an odd number.
(ii) a prime number.
(iii) divisible by 2 and 3 both.
(iv) a multiple of 3 or 5.

621) The king, queen and jack of clubs are removed from a deck of 52 playing cards and then well-shuffled. Now, one card is drawn at random from the remaining cards. Find the probability of getting a card of (i) a heart.
(ii) a king.

622) A pair of dice is thrown once. Find the probability of getting
(i) doublet of prime numbers.
(ii) a doublet of odd numbers

623) Videocon Electronics has launched two new mobile hands sets: Set I and Set II. Set I is cheaper as compared to Set II. But Set II has built-in device to recharge the battery with auto-cut power supply when it is fully charged. In a lot, there are 250 pieces of Set I and 100pieces of Set II. If mobile is picked at random, then
(i) find the probability of getting Set I.
(ii) find the probability of getting Set II.

624) Abag contains 7 green balls and some red balls. If the probability of drawing a red ball from the bag is thrice that of a green ball, then the number of red balls in the bag are 21 and drawing a red ball is not an equally likely outcomes. Atul at once said that "It is wrong". Do you agree with Atul? Justify.

Case Study Questions 23 x 4 = 92

625) Two friends Richa and Sohan have some savings in their piggy bank. They decided to count the total coins they both had. After counting they find that they have fifty ₹ 1 coins, forty eight ₹ 2 coins, thirty six ₹ 5 coins, twenty eight ₹10 coins and eight ₹ 20 coins. Now, they said to Nisha, their another friends, to choose a coin randomly.

Find the probability that the coin chosen is

(i) ₹5 coin

(a) $\frac{17}{55}$ **(b)** $\frac{36}{85}$

(c) $\frac{18}{85}$ **(d)** $\frac{1}{15}$

(ii) ₹ 20 coin

(a) $\frac{13}{85}$ **(b)** $\frac{4}{85}$

(c) $\frac{3}{85}$ **(d)** $\frac{4}{15}$

(iii) not a ₹ 10 coin

(a) $\frac{15}{31}$ **(b)** $\frac{36}{85}$

(c) $\frac{1}{5}$ **(d)** $\frac{71}{85}$

(iv) of denomination of atleast ₹10.

(a) $\frac{18}{85}$ **(b)** $\frac{36}{85}$

(c) $\frac{1}{17}$ **(d)** $\frac{16}{85}$

(v) of denomination of atmost ₹ 5.

(a) $\frac{67}{85}$ **(b)** $\frac{36}{85}$

(c) $\frac{4}{85}$ **(d)** $\frac{18}{85}$

626) In a play zone, Nishtha is playing claw crane game which consists of 58 teddy bears, 42 pokemons, 36 tigers and 64 monkeys. Nishtha picks a puppet at random. Now, find the probability of getting

(i) a tiger

(a) $\frac{3}{50}$ **(b)** $\frac{9}{50}$

(c) $\frac{1}{25}$ **(d)** $\frac{27}{50}$

(ii) a monkey

(a) $\frac{8}{25}$ **(b)** $\frac{4}{25}$

(c) $\frac{16}{25}$ **(d)** $\frac{1}{5}$

(iii) a teddy bear

(a) $\frac{41}{50}$ **(b)** $\frac{29}{50}$

(c) $\frac{29}{100}$ **(d)** $\frac{41}{100}$

(iv) not a monkey

(a) $\frac{1}{25}$ **(b)** $\frac{8}{25}$

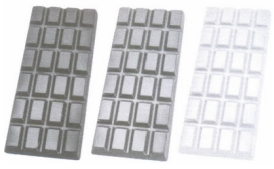
(c) $\frac{13}{25}$ **(d)** $\frac{17}{25}$

(v) not a pokemon

(a) $\frac{27}{100}$ **(b)** $\frac{43}{100}$

(c) $\frac{61}{100}$ **(d)** $\frac{79}{100}$

627) Rohit wants to distribute chocolates in his class on his birthday. The chocolates are of three types: Milk chocolate, White chocolate and Dark chocolate. If the total number of students in the class is 54 and everyone gets a chocolate, then answer the following questions.



(i) If the probability of distributing milk chocolates is 1/3, then the number of milk chocolates Rohit has, is

(a) 18 **(b) 20**

(c) 22 **(d) 30**

(ii) If the probability of distributing dark chocolates is 4/9, then the number of dark chocolates Rohit has, is

(a) 18 **(b) 25**

(c) 24 **(d) 36**

(iii) The probability of distributing white chocolates is

(a) $\frac{11}{27}$ **(b)** $\frac{8}{21}$

(c) $\frac{1}{9}$ **(d)** $\frac{2}{9}$

(iv) The probability of distributing both milk and white chocolates is

(a) $\frac{3}{17}$ **(b)** $\frac{5}{9}$

(c) $\frac{1}{3}$ **(d)** $\frac{1}{27}$

(v) The probability of distributing all the chocolates is

(a) 0 **(b) 1**

(c) $\frac{1}{2}$ **(d)** $\frac{3}{4}$

628) In a party, some children decided to play musical chair game. In the game the person playing the music has been advised to stop the music at any time in the interval of 3 mins after he start the music in each turn. On the basis of the given information, answer the following questions.

(i) What is the probability that the music will stop within first 30 sees after starting?

(a) $\frac{1}{6}$ **(b)** $\frac{1}{5}$

(c) $\frac{1}{4}$ **(d)** $\frac{1}{3}$

(ii) The probability that the music will stop within 45 sees after starting is

(a) $\frac{1}{4}$ **(b)** $\frac{1}{5}$

(c) $\frac{1}{6}$ **(d)** $\frac{1}{8}$

(iii) The probability that the music will stop after 2 mins after starting is

(a) $\frac{1}{8}$ **(b)** $\frac{1}{5}$

(c) $\frac{1}{4}$ **(d)** $\frac{1}{3}$

(iv) The probability that the music will not stop within first 60 sees after starting is

(a) $\frac{1}{3}$ **(b)** $\frac{2}{3}$

(c) $\frac{4}{5}$ **(d)** $\frac{8}{9}$

(v) The probability that the music will stop within first 82 sees after starting is

(a) $\frac{11}{30}$ **(b)** $\frac{41}{90}$

(c) $\frac{31}{35}$ **(d)** $\frac{41}{93}$

629) Three persons toss 3 coins simultaneously and note the outcomes. Then, they ask few questions to one another. Help them in finding the answers of the following questions.

(i) The probability of getting atmost one tail is

(a) 0 **(b)** 1

(c) $\frac{1}{2}$ **(d)** $\frac{1}{4}$

(ii) The probability of getting exactly 1 head is

(a) $\frac{1}{2}$ **(b)** $\frac{1}{4}$

(c) $\frac{1}{8}$ **(d)** $\frac{3}{8}$

(iii) The probability of getting exactly 3 tails is

(a) 0 **(b)** 1

(c) $\frac{1}{4}$ **(d)** $\frac{1}{8}$

(iv) The probability of getting atmost 3 heads is

(a) 0 **(b)** 1

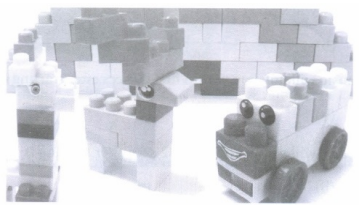
(c) $\frac{1}{2}$ **(d)** $\frac{1}{8}$

(v) The probability of getting atleast two heads is

(a) 0 **(b)** 1

(c) $\frac{1}{2}$ **(d)** $\frac{1}{4}$

630) Prateek goes to a toy shop to purchase a building block kit for his son. He found that the kit contains 120 blocks, of which 40 are red, 25 are blue, 30 are green and the rest are yellow. His son picks up a block at random. Find the probability that the block is



(i) of red colour

(a) 0 **(b)** 1

(c) $\frac{1}{2}$ **(d)** $\frac{1}{3}$

(ii) not of yellow colour

(a) $\frac{1}{6}$ **(b)** $\frac{1}{4}$

(c) $\frac{19}{24}$ **(d)** $\frac{19}{25}$

(iii) of green colour

(a) $\frac{1}{8}$ **(b)** $\frac{1}{10}$

(c) $\frac{1}{4}$ **(d)** $\frac{1}{12}$

(iv) of yellow colour

(a) $\frac{15}{118}$ **(b)** $\frac{5}{24}$

(c) $\frac{17}{24}$ **(d)** $\frac{19}{50}$

(v) not of blue colour

(a) $\frac{1}{8}$ **(b)** $\frac{19}{24}$

(c) $\frac{19}{31}$ **(d)** $\frac{16}{55}$

631) Rahul goes to a fete in Mussoorie. There he saw a game having prizes - wall clocks, power banks, puppets and water bottles. The game consists of a box having cards inside it, bearing the numbers 1 to 200, one on each card.

A person has to select a card at random. Now, the winning of prizes has the following conditions:

a) Wall clock - If the number on the selected card is a perfect square.

b) Power bank - If the number on the selected card is multiple of 3.

c) Puppet - If the number on selected card is divisible by 10.

d) Water bottle - If the number on the selected card is a prime number more than 100 but less than 150.

e) Better luck next time - If the number on the selected card is a perfect cube.

On the basis of above information, answer the following questions.

(i) Find the probability of winning a puppet.

(a) $\frac{1}{5}$ **(b)** $\frac{1}{8}$

(c) $\frac{1}{10}$ **(d)** $\frac{2}{15}$

(ii) The probability of winning a water bottle is

(a) $\frac{1}{18}$ **(b)** $\frac{1}{19}$

(c) $\frac{1}{20}$ **(d)** $\frac{1}{16}$

(iii) The probability of winning a power bank is

(a) $\frac{3}{10}$ **(b)** $\frac{11}{50}$

(c) $\frac{33}{100}$ **(d)** $\frac{1}{8}$

(iv) The probability of winning a wall clock is

(a) $\frac{7}{100}$ **(b)** $\frac{51}{100}$

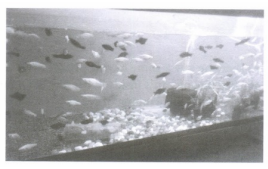
(c) $\frac{19}{100}$ **(d)** $\frac{27}{100}$

(v) The probability of getting 'Better Luck next time' is

(a) $\frac{1}{40}$ **(b)** $\frac{1}{80}$

(c) $\frac{1}{20}$ **(d)** $\frac{1}{60}$

632) Sunil goes to market for buying an aquarium for his house. He asked to the shopkeeper to put some fish in the aquarium. The shopkeeper takes out 13 guppy fish, 18 flowerhorn fish, 12 koi fish and 11 angel fish from the big tank he had and put them in the aquarium that Sunil had bought. Now, he selects a fish at random.



On the basis of above information, answer the following questions.

(i) If total number of male fish in the aquarium is 36, then the probability of selecting a female fish is

(a) $\frac{1}{2}$ **(b)** $\frac{1}{3}$

(c) $\frac{1}{4}$ **(d)** $\frac{1}{5}$

(ii) The probability of selecting a flowerhorn fish is

(a) $\frac{1}{2}$ **(b)** $\frac{1}{3}$

(c) $\frac{1}{4}$ **(d)** $\frac{1}{5}$

(iii) The probability of not selecting a koi fish is

(a) $\frac{2}{9}$ **(b)** $\frac{1}{3}$

(c) $\frac{1}{4}$ **(d)** $\frac{7}{9}$

(iv) The probability of selecting neither angle fish nor flowerhorn fish is

(a) $\frac{16}{27}$ **(b)** $\frac{25}{54}$

(c) $\frac{8}{27}$ **(d)** $\frac{25}{27}$

(v) The probability of selecting a guppy fish is

(a) 0 **(b) 1**

(c) $\frac{13}{54}$ **(d) None of these**

633) Two friends were playing a game with two dice. Anju has a blue dice and Nitish has a grey dice. They decided to throw both the dice simultaneously and note down all the possible outcomes appearing on the top of both the dice.

On the basis of above information, answer the following questions.

(i) The total number of possible outcomes they noted, is

(a) 24 **(b) 36**

(c) 18 **(d) 6**

(ii) The probability of getting the sum of numbers on two dice is 16, is

(a) 1 **(b)** $\frac{5}{36}$

(c) 0 **(d)** $\frac{18}{35}$

(iii) The probability that both the numbers are prime numbers, is

(a) 0 **(b)** $\frac{1}{2}$

(c) $\frac{1}{4}$ **(d)** $\frac{1}{8}$

(iv) The probability that product of two numbers is odd, is|

(a) 1 **(b)** $\frac{1}{2}$

(c) $\frac{1}{4}$ **(d)** $\frac{1}{8}$

(v) The probability that difference between numbers is zero, is

(a) $\frac{1}{2}$ **(b)** $\frac{1}{4}$

(c) $\frac{1}{6}$ **(d)** $\frac{1}{8}$

634) Four friends are playing with cards. One of them hides all the 2's, 5's and Jacks from the deck of 52 cards and then shuffles the remaining cards. Now, he tells to one of his friend to pick a card at random from the remaining cards.

On the basis of above information, answer the following questions.

(i) The probability of getting '6 of spade' is

(a) 0 **(b)** $\frac{1}{20}$

(c) $\frac{1}{40}$ **(d) 1**

(ii) The probability of getting a black diamond is

(a) 0 **(b) 1**

(c) $\frac{1}{2}$ **(d)** $\frac{1}{4}$

(iii) The probability of getting a face card is

(a) $\frac{1}{3}$ **(b)** $\frac{1}{5}$

(c) $\frac{1}{7}$ **(d)** $\frac{1}{9}$

(iv) The probability of getting a club is

(a) 0 **(b) 1**

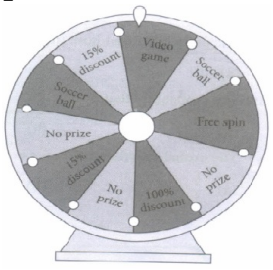
(c) $\frac{1}{2}$ **(d)** $\frac{1}{4}$

(v) The probability of getting a red card is

(a) 0 **(b) 1**

(c) $\frac{1}{2}$ **(d)** $\frac{1}{4}$

635) In a toy shop, there is a spinning wheel for their customers. The spinning wheel has different types of prizes as shown in figure. A customer can only spin the wheel after buying something from the shop.



On the basis of above information, answer the following questions.

(i) If Mr Sharma spins the wheel, then the probability that he gets 100% discount is

(a) 0 **(b)** $\frac{1}{10}$

(c) $\frac{1}{5}$ **(d)** $\frac{1}{4}$

(ii) If Anita spins the wheel, then the probability of getting no prize is

(a) $\frac{1}{10}$ **(b)** $\frac{1}{5}$

(c) $\frac{3}{10}$ **(d)** $\frac{2}{5}$

(iii) Anshu spins the wheel, the probability that the wheel stops at soccer ball is

(a) $\frac{1}{10}$ **(b)** $\frac{1}{5}$

(c) $\frac{3}{10}$ **(d)** $\frac{2}{5}$

(iv) The probability that one customer wins 15% discount is

(a) $\frac{1}{10}$ **(b)** $\frac{1}{5}$

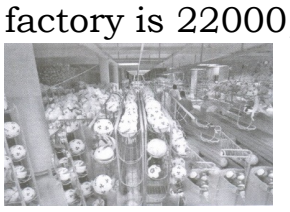
(c) $\frac{3}{10}$ **(d)** $\frac{2}{5}$

(v) The probability of getting a free spin is

(a) $\frac{1}{10}$ **(b)** $\frac{1}{5}$

(c) $\frac{3}{10}$ **(d)** $\frac{2}{5}$

636) Mr Verma is a production manager in a factory that makes footballs. On one day, he noticed that at every 100
pieces produced in the factory, 15 are defective. If the total number of footballs produced in one day in the
factory is 22000, then answer the following questions.



(i) A football is selected at random, then the probability of selecting a defective football is

(a) $\frac{1}{20}$ **(b)** $\frac{1}{10}$

(c) $\frac{3}{20}$ **(d)** $\frac{1}{5}$

(ii) A football is selected at random, the probability of selecting a non-defective football is

(a) $\frac{1}{20}$ **(b)** $\frac{13}{20}$

(c) $\frac{3}{4}$ **(d)** $\frac{17}{20}$

(iii) The total number of defective footballs produced in one day is

(a) 4200 **(b) 3300**

(c) 9200 **(d) 11000**

(iv) The total number of non-defective footballs produced in one day is

(a) 18700 **(b) 17800**

(c) 12800 **(d) 11000**

(v) If the probability of selecting a defective football is , then the number of non-defective footballs produced in one day, if everyday same number of footballs produced in the factory, is

(a) 13640 **(b) 9200**

(c) 7040 **(d) 14960**

637) Two families- Gupta's and Singhal's are lived in a colony. Gupta family has two children while Singhal family has 3 children.

On the basis of the above information, answer the following questions.

(i) Find the probability that Mr Singhal has exactly 2 girls and 1 boy.

(a) $\frac{1}{2}$ (b) $\frac{1}{4}$

(c) $\frac{1}{6}$ (d) $\frac{1}{8}$

(ii) The probability that Gupta's has atleast 1 boy is

(a) $\frac{1}{3}$ **(b)** $\frac{2}{3}$

(c) 1 **(d)** $\frac{4}{5}$

(iii) The probability that Gupta's has atmost 1 girl is

(a) $\frac{1}{3}$ **(b)** $\frac{2}{3}$

(c) 1 **(d)** $\frac{2}{5}$

(iv) The probability that Singhal's has no boy is

(a) $\frac{1}{2}$ **(b)** $\frac{1}{4}$

(c) $\frac{1}{6}$ **(d)** $\frac{1}{8}$

(v) The sum of probabilities that both families have exactly two girls is

(a) $\frac{1}{12}$ **(b)** $\frac{1}{4}$

(c) $\frac{7}{12}$ **(d) 0**

638) Vishal goes to a store to purchase juice cartons for his shop. The store has 80 cartons of orange juice, 90 cartons of apple juice, 38 cartons of mango juice and 42 cartons of guava juice. If Vishal chooses a carton at random, then answer the following questions.

(i) The probability that the selected carton is of apple juice is

(a) $\frac{.1}{25}$ **(b)** $\frac{8}{25}$

(c) $\frac{13}{25}$ **(d)** $\frac{9}{25}$

(ii) The probability that the selected carton is not of orange juice is

(a) $\frac{14}{25}$ **(b)** $\frac{11}{25}$

(c) $\frac{17}{25}$ **(d)** $\frac{4}{25}$

(iii) The probability of selecting a carton of guava juice is

(a) $\frac{51}{125}$ **(b)** $\frac{16}{125}$

(c) 0 **(d)** $\frac{21}{125}$

(iv) Vishal buys 4 cartons of apple juice, 3 cartons of orange juice and 3 cartons of guava juice. A customer comes to Vishal's shop and picks a tetrapack of juice at random. The probability that the customer picks a guava juice, if each carton has 10 tetrapacks of juice, is

(a) $\frac{1}{10}$ **(b)** $\frac{2}{10}$

(c) $\frac{3}{10}$ **(d)** $\frac{2}{5}$

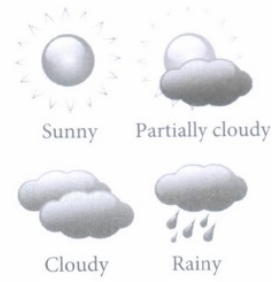
(v) If the storekeeper bought 14 more cartons of apple juice, then the probability of selecting a tetrapack of apple juice from the store is

(a) $\frac{25}{127}$ **(b)** $\frac{50}{127}$

(c) $\frac{75}{127}$ **(d)** $\frac{100}{127}$

639) In the month of May, the weather forecast department gives the prediction of weather for the month of June, The given table shows the probabilities of forecast of different days:

Days	Sunny	Cloudy	Partially cloudy	Rainy
Probability	$\frac{1}{2}$	x	$\frac{1}{5}$	y



If the forecast is 100% correct for June, then answer the following questions,

(i) The number of sunny days in June, is

(a) 5 **(b) 10**

(c) 15 **(d) 20**

(ii) If the number of cloudy days in June is 5, then x =

(a) $\frac{1}{4}$ **(b)** $\frac{1}{6}$

(c) $\frac{1}{8}$ **(d)** $\frac{1}{10}$

(iii) The probability that the day is not rainy is

(a) $\frac{13}{15}$ **(b)** $\frac{11}{15}$

(c) $\frac{1}{15}$ **(d) None of these**

(iv) If the sum of x < and y is $\frac{3}{10}$, then the number of rainy days in June is

(a) 1 **(b) 2**

(c) 3 **(d) 4**

(v) Find the number of partially cloudy days

(a) 2 **(b) 4**

(c) 6 **(d) 8**

640) One day, during games period four friends A, B, C and D planned to play game using number cards. They prepared 20 numbered cards with labelled 1 to 20 and then they put all the number cards in the empty chalk box available in the classroom. In this game, every friend was asked to pick the card randomly and after each draw, card was replaced back in the chalk box.

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20

(i) Find the probability, first boy pick the card and he get the card with an even number?

(a) $\frac{1}{4}$ **(b)** $\frac{1}{2}$ **(c)** $\frac{1}{6}$ **(d)** $\frac{3}{8}$

(ii) If the card drawn in first case is replaced, and the second boy draws a card. What is the probability getting a prime number?

(a) $\frac{2}{5}$ **(b)** $\frac{4}{5}$ **(c)** $\frac{7}{8}$ **(d)** $\frac{9}{11}$

(iii) If the card drawn, is not replaced in the second draw, what is the probability that he hot a multiple of 3 greater than 4?

(a) $\frac{1}{11}$ **(b)** $\frac{7}{20}$ **(c)** $\frac{6}{19}$ **(d)** $\frac{5}{19}$

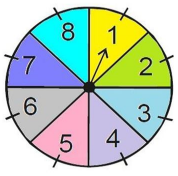
(iv) For a sure event A, P(A) = ?

(a) 1 **(b) 0** **(c) -1** **(d) 2**

(v) If all cards drawn are replaced then what is the probability of getting a multiple of 3 and 5?

(a) $\frac{1}{2}$ **(b)** $\frac{1}{5}$ **(c)** $\frac{1}{20}$ **(d)** $\frac{1}{18}$

641) One day Rahul visited park along with his friend. There he saw a game of chance that consists of spinning an arrow (as shown in below figure) that comes to rest pointing at one of the numbers 1, 2, 3, 4, 5,6, 7, 8 and these are equally likely outcomes.



(a) Find the probability that the arrow will point at 2 .

(i) $\frac{1}{2}$ **(ii)** $\frac{1}{8}$ **(iii)** $\frac{3}{8}$ **(iv)** $\frac{5}{8}$

(b) Find the probability that the arrow will point at an even number.

(i) $\frac{1}{2}$ **(ii)** $\frac{1}{8}$ **(iii)** $\frac{3}{8}$ **(iv)** $\frac{1}{4}$

(c) Find the probability that the arrow will point at a prime number.

(i) $\frac{1}{2}$ **(ii)** $\frac{1}{8}$ **(iii)** $\frac{3}{8}$ **(iv)** $\frac{5}{8}$

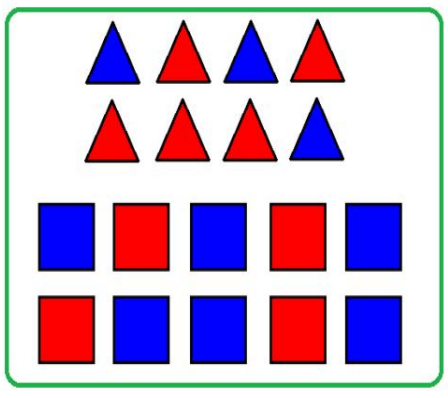
(d) Find the probability that the arrow will point at a number divisible by 3 .

(i) $\frac{1}{2}$ **(ii)** $\frac{1}{8}$ **(iii)** $\frac{3}{8}$ **(iv)** $\frac{1}{4}$

(e) Find the probability that the arrow will point at a number greater than 2 .

(i) $\frac{1}{2}$ **(ii)** $\frac{1}{8}$ **(iii)** $\frac{3}{4}$ **(iv)** $\frac{1}{4}$

642) Aditya went to shop to purchase a child's game along with his friend. He selected one child's game which has 8 triangles of which 3 are blue and rest are red, and 10 squares of which 6 are blue and rest are red. While checking the game, one piece is lost at random.



(i) How many triangles are of red colour and how many squares are of red colour?

(i) 5,4 (ii) 4,5 (iii) 5,5 (iv) 8,6

(ii) Find the probability that lost piece is square.

(i) $\frac{4}{9}$ **(ii)** $\frac{5}{9}$ **(iii)** $\frac{1}{3}$ **(iv)** $\frac{5}{18}$

(iii) Find the probability that lost piece is triangle.

(i) $\frac{4}{9}$ **(ii)** $\frac{5}{9}$ **(iii)** $\frac{1}{3}$ **(iv)** $\frac{5}{18}$

(iv) Find the probability that lost piece is square of blue color.

(i) $\frac{4}{9}$ **(ii)** $\frac{5}{9}$ **(iii)** $\frac{1}{3}$ **(iv)** $\frac{5}{18}$

643) Ruby and Rita are best friends. They are staying in the same colony. Both are studying in the same class and in the same school. During Winter vacation Ruby visited Rita's house to play Ludo. They decided to play Ludo with 2 dice.

(a) To win a game, Ruby wanted a total of 7 . What is the probability of winning a game by Ruby?

(i) $\frac{1}{6}$ **(ii)** $\frac{7}{12}$ **(iii)** $\frac{5}{18}$ **(iv)** $\frac{1}{9}$

(b) To win a game, Rita wanted 8 as the sum. What is the probability of winning a game by Rita?

(i) $\frac{1}{12}$ **(ii)** $\frac{7}{36}$ **(iii)** $\frac{5}{36}$ **(iv)** $\frac{1}{4}$

(c) What is the probability that the sum of the numbers on the both the dice is divisible by 4 or 6 ?

(i) $\frac{7}{18}$ **(ii)** $\frac{7}{15}$ **(iii)** $\frac{2}{3}$ **(iv)** $\frac{2}{9}$

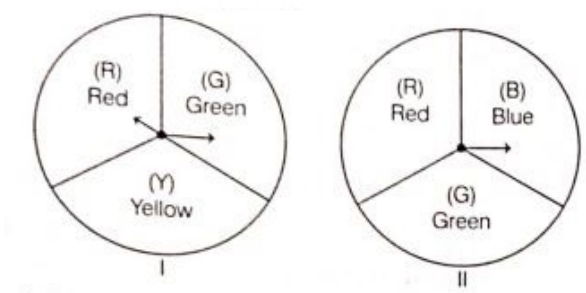
(d) The probability of getting a total of atleast 10 is

(i) $\frac{1}{6}$ **(ii)** $\frac{1}{3}$ **(iii)** $\frac{2}{3}$ **(iv)** $\frac{1}{4}$

(e) The probability that 5 will come up at least in 1 die is

(i) $\frac{7}{36}$ **(ii)** $\frac{11}{36}$ **(iii)** $\frac{25}{36}$ **(iv)** $\frac{2}{9}$

644) A middle school decided to run the following spinner game as a fund-raiser on Christmas Carnival.



Making Purple: Spin each spinner once. Blue and red make purple. So, if one spinner shows Red (R) and another Blue (B), then you 'win', One such outcome is written as 'RB'.

Based on the above, answer the following questions

(i) List all possible outcomes of the game.

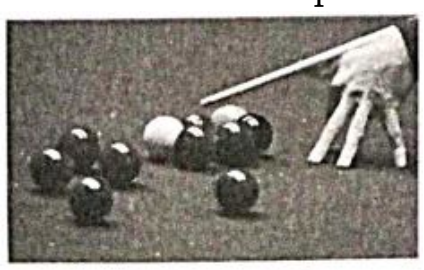
(ii) Find the probability of 'Making Purple'.

(iii) For each win, a participant gets Rs 10, but if he/she loses, he/she has to pay Rs 5 to the school. If 99 participants played, calculate how much fund could the school have collected.

Or

If the same amnount of Rs 5 has been decided for winnings or losing the game, then how much fund had been collected by school? (Number of participants = 99)

645) "Eight Ball" is a game played on a pool table with 15 balls numbered from 1 to 15 and a "cue ball" that is solid and white. Out of the 15 balls, eight are solid (non-white) coloured and numbered from 1 to 8 and seven are striped balls numbered from 9 to 15.



The 15 numbered pool balls (no cue ball) are placed in a large bowel and mixed, then one ball is drawn out at random.

Based on the above information, answer the following questions:

(i) What is the probability that the drawn ball bears number 8?

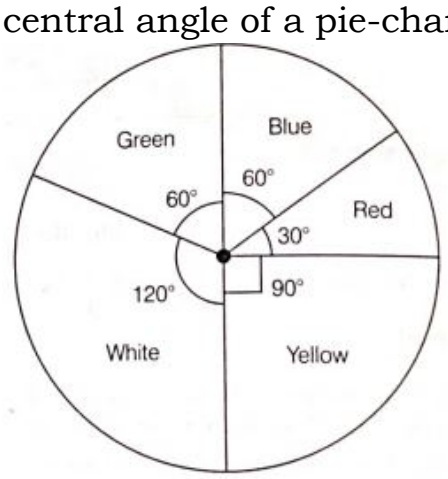
(ii) What is the probability that the drawn ball is a solid colourf and bears an even number?

(iii) what is the probability that the drawn ball bears an even number?

Or

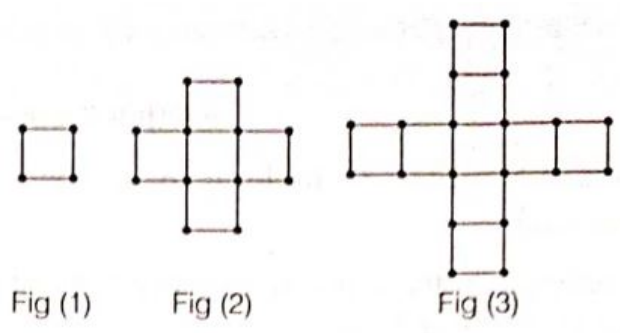
What is the probability that the drawn ball bears a number, which is a multiple of 3?

646) Some students were asked to list theirs favourite colour. The measure of each colour is shown by the central angle of a pie-chart given below :



Study the pie-chart and answer the following questions :
(i) If a student is chosen at random, then find the probability of his/her favourite colour being white?
(ii) What is the probability of his/her favourite colour being blue or green?
(iii) If 15 students liked the colour yellow, how many students participated in the survey?
Or
What is the probability of the favourite colour being red or blue?

647) While preparing for a competitive examination, Akbar came across a match-stick pattern based question. The pattern is given below.



Based on the above information answer the following questions.
(i) Write first term and common difference of the AP formed by number of squares in each figure.
(ii) Write first term and common difference of the AP formed by number of sticks used in each figure.
(iii) (a) How many squares are there in fig (10)? Also, write the number of stick used in fig. (10).
Or (b) If 88 sticks are used to make mth (fig (m)), then find the value of m. How many squares are formed in this figure?

5 Marks 57 x 5 = 285

648) One card is drawn from a well-shuffled deck of 52 cards. Find the probability of getting
(i) a king of red colour.
(ii) a face card.
(iii) a red face card.
(iv) the jack of hearts.
(v) a spade.
(vi) the queen of diamonds.

649) A box contains 90 discs which are numbered from 1 to 90. If one disc is drawn at random from the box, find the probability that is bears
(i) a two digit number
(ii) a perfect square number
(iii) a number divisible by 5

650) Two dice one blue and one grey, are thrown at the same time. Then
(i) Complete the following table:

Event: (Sum on 2 dice)	2	3	4	5	6	7	8	9	10	11	12
Probability	$\frac{1}{36}$							$\frac{5}{36}$			$\frac{1}{36}$

(ii) A student argues that-there are 11 possible outcomes (2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12). Therefore, each of them has a probability $\frac{1}{11}$. Do you agree with the argument? Justify your answer.

651) In a musical chair game, the person playing the music has been advised to stop playing the music at any time within 2 minutes after she starts playing. What is the probability that the music will stop within the first half-minute after starting?

652) Savita and Hamida are friends.What is the probability that both will have:
(i) different birthday?
(ii) the same birthday? (ignoring a leap year)

653) A box contains 3 blue, 2 white, and 4 red marbles. If a marble is drawn at random from the box, what is the probability that it will be (i) white? (ii) blue? (iii) red?

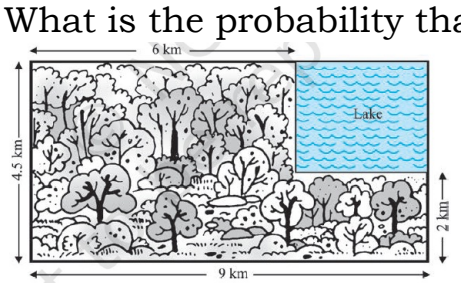
654) There are 40 students in Class X of a school of whom 25 are girls and 15 are boys. The class teacher has to select one student as a class representative. She writes the name of each student on a separate card, the cards being identical. Then she puts cards in a bag and stirs them thoroughly. She then draws one card from the bag. What is the probability that the name written on the card is the name of (i) a girl? (ii) a boy?

655) One card is drawn from a well-shuffled deck of 52 cards.Calculate the probability that the card will:
(i) be an ace,
(ii) not be an ace.

656) Two dice, one blue and one grey, are thrown at the same time. Write down all the possible outcomes. What is the probability that the sum of the two numbers appearing on the top of the dice is
(i) 8?
(ii) 13?
(iii) less than or equal to 12?

657) Suppose we throw a die once.
(i) What is the probability of getting a number greater than 4 ?
(ii) What is the probability of getting a number less than or equal to 4 ?

658) A missing helicopter is reported to have crashed somewhere in the rectangular region shown in Fig. What is the probability that it crashed inside the lake shown in the figure?



659) In a single throw of two dice, find the probability of:
(i) getting a total of 10 (ii) getting a total of 9 or 11
(iii) getting a sum greater than 9 (iv) getting a doublet of even numbers
(v) not getting the same number on the two dice.

660) Two dice are numbered 1, 2, 3, 4, 5, 6 and 1, 2, 2 3, 3, 4 respectively. They are thrown and the sum of the numbers on them is noted. Find the probability of getting (i) sum 7 (ii) sum is a perfect square.

661) A child's game has 8 triangles of which 3 are blue and rest are red, and 10 squares of which 6 are blue and rest are red. One piece is lost at random. Find the probability that it is a
(i) triangle (ii) square
(iii) square of blue colour (iv) triangle of red colour

662) In a game, the entry fee is Rs. 5. The game consists of tossing a coin 3 times. If one or two heads show, then Sweta gets her entry fee back. If she tosses 3 heads, then she receives double the entry fees. Otherwise she will lose. For tossing a coin three times, find the probability that she
(i) loses the entry fee
(ii) gets double entry fee
(iii) just gets her entry fee

663) A dice is thrown twice. Find the probability that
(i) 5 may not come either time.
(ii) same number mat not come on the dice thrown two times.

664) A coin is tossed. If it results in a head a coin is tossed, otherwise a die is thrown. Describe the following events:
(i) A = getting atleast one head
(ii) B = getting an even number
(iii) C = getting a tail
(iv) D = getting a tail and an odd number

665) 20 cards numbered 1, 2, 3, ..., 20 are put in a box and mixed thoroughly. Shashi draws a cards from the box. Find the probability that the number on the card is (i) odd (ii) even (iii) a prime (iv) divisible by 3 (v) divisible by 3 and 2 both.

666) At a fete cards bearing numbers 1 to 500, one on each card, are put in a box. Each player selects one card at random and that card is not replaced. If the selected card bears a number which is a perfect square of an even number the player wins prize. (i) What is the probability that the first player wins a prize? (ii) The second player wins prize, if the first has not won.

667) On the basis of a throw of a pair of dice.
(i)Complete the following table:

Event: 'Sum on 2 dice'	Probability
2	$\frac{1}{36}$
3	
4	
5	
6	
7	
8	$\frac{5}{36}$
9	
10	
11	
12	$\frac{1}{36}$

(ii)A student argues that there are 111 possible outcomes 2,3,4,5,6,7,8,19,10,11 and 12.Therefore, each of them has a probability $\frac{1}{11}$ .Do you agree with this argument? Justify your answer.

668) A box contains 12 balls out of which x are black. If one ball is drawn at random from the box, what is the probability that it will be blackball? If 6 more black balls are put in the box, the probability of drawing a black ball now is double of what it was before.Find x.

669) Two customers shyam and Ekta are visiting a particular shop in the same week (Tuesday to Saturday).Each is equally likely to visit the shop on any day.What is the probability that both will visit the shop on:
(i)The same
(ii)Consecutive day?

670) Two dice are numbered 1,2,3,4,5,6 and 1,1,2,2,3,3 respectively.They are thrown and the sum of the numbers on them is noted.Find the probability of getting each sum from 2 to 9 separately

671) A letter is at drawn at random from the word 'MATHEMATICS'.Find the probability of drawing each of the different letters in the given word.

672) Onkar draws a card from a well shuffled deck of 52 cards.Find the probability of getting:
(i)a jack of red suit
(ii)'5' or '9' of club
(iii)a diamond card
(iv)'2' or '3' or '5' of black suit.

673) Gugu throws a die.What is the probability that she shows:
(i)an odd number
(ii)a number less than 5
(iii)a '6'
(iv)a prime number
(v)a number greater than 2?

674) An urn consists of 100 identical tokens on which 1 to 100 are marked.One token is drawn.What is the probability that the number on token is:
(i)Less than 33
(ii)AA multiple of 5
(iii)AN even number
(iv)A multiple of 2 and 3
(v)An odd number
(vi)A perfect square

675) A box of 24 solar cells contain 8 defective cells.One cell is drawn at random.What is the probability that the cell is not defective and it is not replaced and a second cell is selected at random from the rest, what is the probability that second cell is defective?

676) 19 cards numbered 1,2,3,.....,19 are put in a box and mixed thoroughly.One person draws one card from the box.Find the probability that the number on the card is:
(i)even
(ii)A prime
(iii)Divisible by 3
(iv)Divisible by 3 and 2 both

677) A game of chance consists of spinning an arrow which is equally likely to come to rest pointing to one of the number 1,2,3,....15,16 as shown in the given figure.what is the probability that it will point to
(i)13
(ii)8
(iii)An odd number
(iv)A number which is multiple of 4"
(v)An even number
(vi)Multiple of 5

678) A card is drawn at random from a well shuffled deck of playing cards.Find the probability that the card drawn is:
(i)A card of spade or an ace
(ii)A black king
(iii)Neither a jack nor a king
(iv)Either a king or a queen

679) Two unbiased coins are tossed simultaneously. find the probability of getting
(i) no heads
(ii) atmost one tail
(iii) one tail
(iv) one head and one tail

680) (i) Find the probability of getting 53 Fridays in a leap year.
(ii) A die is thrown, find the probability of getting an odd prime number.

681) One card is drawn at random from a well-shuffled deck 52 cards. Find the probability of getting
(i) a king of red colour
(ii) a face card
(iii) a red face card
the jack of hearts

682) All the three face cards of spades are removed from a well-shuffled pack of 52 cards. A card is then drawn at random from the remaining pack. Find the probability of getting
(i) a spade

683) Samsung Electronics has launched two new mobile hand sets: I and set II. set I is cheaper as compared to set II. But set II has built-in device to recharge the battery with auto-cut power supply when it is fully charged. In a lot, there are 250 pieces of Set I and 100 pieces of Set II. If a mobile is picked at random
(i) find the probability of getting Set I.
(ii) find the probability of getting Set II.
(iii) if you are actively participating in Save Environment campaigan, which mobile set you would prefer and why?

684) A tangent PQ at a point P of a circle of radius 5 cm meets a line through the centre O at a point Q, so that OQ=12 cm. Length of PQ is
(a) 12 cm
(b) 13 cm
(c) 8.5 cm
(d) $\sqrt{119}$ cm

685) A bag contains white, black and red balls only. A ball is drawn at random from the bag. The probability of getting a white ball is $\frac{3}{10}$ and that of a black ball is $\frac{2}{5}$. Find the probability of getting a red ball. If the bag contains 20 black balls, then find the total number of balls in the bag.

686) A group consists of 12 persons, out of which 3 are extremely patient, other 6 are extremely honest and rest are extremely kind. A person from the group is selected at random. Assuming that each person is equally likely to be selected, find the probability of selecting a person who is
(i) extremely kind or honest
(ii) Which of the above values you prefer more?

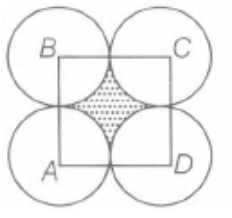
687) A group of students from a school decided to denote blood. The blood group of 16 students of Class X are recorded as follows
A, B, O, O, AB, O, A, O, B, A, O, B, A, O, O, AB
(i) Find the probability of blood group
(a) O (b) A
(ii) What value is depicted from this activity?

688) Anu, Priya and Jyoti were fighting to get first chance in a game. Anu says, "Let us toss two coins. If both heads appear, Priya will take chance, if both tails appear, Jyoti will get it and if one head and one tail appears, I will get the chance".
(i) What is the probability of Anu, Priya and Jyoti getting the first chance?
(ii) Is her decision fair?
(iii) What quality of her character is being depicted here?

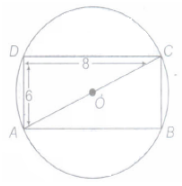
689) A bag contains 40 balls out of which some are red, some are blue and remaining are black. If the probability of drawing a red ball is $\frac{11}{20}$ and that of blue ball is $\frac{1}{5}$, then find the number of black balls.

690) A game consists of spinning an arrow which comes to rest pointing at one of the regions (1, 2 or 3). Are the outcomes 1, 2 and 3 equally likely to occur? Give reasons.

691) In the given figure, points A, B, C and D are the centres of four circles that each have a radius of length one unit. If a point is selected at random from the interior of square ABCD, what is the probability that the point will be chosen from the shaded region?



692) In the given figure, a dart is thrown and lands in the interior of the circle. What is the probability that the dart will land in the shaded region?



693) Cards marked with numbers 3, 4, 5, 50 are placed in a bag and mixed thoroughly. One card is drawn at random from the bag. Find the probability that number on the card drawn is :

(a) Divisible by 7.

(b) A perfect square.

(c) A multiple of 6